Participatory planning, evaluation and institutional dynamics in African Natural Resource Management (NRM)

by

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Candidate's Declaration

This thesis is presented as a “Thesis by compilation” following guidelines of the Australian National University and AgroParisTech. This thesis is structured as a series of eight connected papers, each forming one chapter. These papers have been published, accepted or submitted for publication at the time of thesis submission. For further information regarding the authorship, status, journal and extent of the candidate’s contribution in each paper, see the “paper specification” section.

This thesis contains no material that has been accepted for the award of any other degree or diploma in any university. To the best of the author’s knowledge, it contains no material previously published or written by another person, except where due reference is made in the text.

This thesis was undertaken under a co-tutelle agreement made in September 2013 between:

- The Australian National University (ANU),
- The Institut des Sciences et Industries du Vivant et de l’Environnement (AgroParisTech),
- The Institut National de Recherche en Sciences et Technologies pour l’Environnement et l’Agriculture (IRSTEA), and
- The candidate.

As part of this agreement, the candidate was hosted:

- Between July 2012 and December 2013 by the joint research unit “Gestion Eau Acteurs Usages” (G-Eau) shared between AgroParisTech and IRSTEA in Montpellier (France), and
- Between January 2014 and June 2015 by the Fenner School of Environment and Society at ANU in Canberra (Australia).

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1 ANU College of Medicine, Biology and Environment, Guidelines on Thesis by compilation (2010)

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Abstract

One among other possible approaches towards integrated and adaptive Natural Resource Management (NRM) is participatory planning. Participatory planning entails engaging relevant stakeholders in the identification of environmental issues and the planning of actions to be implemented in order to address these issues. It is now widely acknowledged that plans resulting from participatory planning processes for NRM are more likely to be implemented and sustainable when supported by adequate institutions. However, the extent to which participatory planning processes are able to deliver expected outcomes, and to trigger institutional dynamics, is still largely unknown.

The main research question of this PhD is “How can participatory planning processes for NRM trigger suitable institutional dynamics to more sustainably address social and environmental issues of concern in a given context?” This research question is addressed through two lenses: a methodological lens, looking at the monitoring and evaluation (M&E) of participatory planning processes for NRM, and an institutional lens, looking at institutional dynamics and their drivers. Two participatory planning processes were analysed, in the Rwenzori region in Uganda and the Fogera woreda (district) in Ethiopia.

This thesis provides four main additions to knowledge. First, it bridges the theory-practice gap in the M&E of participatory processes by proposing combined descriptive and analytical frameworks. M&E frameworks used in practice are generally ready-to-use grids of criteria which are not adapted to the specificity of the case, while frameworks proposed in the literature are often resource-demanding and face the reluctance of practitioners. To my knowledge, no existing approaches have suggested combining both an easy-to-use descriptive framework and an adaptive analytical framework in order to bridge the theory-practice gap in the M&E of participatory processes. Second, this thesis draws from a wide range of social and management sciences to support participation scholars to undertake their “research journey” with more confidence. Most existing studies remain well within one or the other corpus, preventing scholars seeking to draw from both social and management sciences to understand and compare approaches. This thesis provides a typology which helps participation scholars to clarify their underlying assumptions and to identify which research approaches they can draw from to monitor and evaluate their participatory processes. Third, it provides an original contribution to the emerging literature on “critical institutionalism” by exploring a practical application of the institutional bricolage approach. In the past, institutional bricolage has mainly been used for in-depth analysis of institutional changes but no studies investigated how it could be
voluntarily triggered through an intervention such as a participatory process. Finally, this thesis uses
the process-tracing method to identify contextual and procedural drivers in institutional emergence
and change. To my knowledge, no previous concrete application of the process tracing method had
been made in the literature to identify concrete drivers of institutional dynamics.

Key words

Institutional dynamics; monitoring and evaluation; natural resource management; participatory
planning
Résumé

Une approche, parmi d'autres, pour gérer les ressources naturelles de manière intégrée et adaptative est la planification participative. La planification participative peut être définie comme l'engagement des parties prenantes concernées dans l'identification des problèmes environnementaux et la planification des actions à mettre en œuvre afin de répondre à ces problèmes. Il est maintenant largement reconnu que les plans découlant des processus de planification participative pour la GRN sont plus susceptibles d'être mis en œuvre et durables lorsqu'ils sont soutenus par des institutions adéquates. Cependant, la capacité des processus de planification participative à livrer les résultats attendus, et à déclencher des dynamiques institutionnelles, est encore largement inconnue.

La principale question de recherche de cette thèse est « Comment les processus de planification participative pour la GRN peuvent-ils déclencher des dynamiques institutionnelles appropriées afin de répondre de façon durable aux problématiques sociales et environnementales ciblées dans un contexte donné? ». Cette question de recherche est abordée à travers deux angles: un angle méthodologique, s’intéressant au suivi-évaluation des processus de planification participative pour la GRN, et un angle institutionnel, s’intéressant aux dynamiques institutionnelles et à leurs facteurs. Deux processus de planification participative ont été analysés, dans la région des Rwenzori en Ouganda et le district de Fogera en Ethiopie.

Cette thèse propose quatre principales contributions à la connaissance. Premièrement, elle aide à combler l’écart entre théorie et pratique au niveau du suivi-évaluation des processus participatifs en proposant un cadre de suivi-évaluation combinant une partie analytique et une partie descriptive. Les cadres de suivi-évaluation utilisés dans la pratique sont souvent sous la forme de grilles de critères « prêtes à l’emploi » qui ne sont pas adaptées à la spécificité de chaque cas, tandis que les cadres proposés dans la littérature sont souvent exigeants en terme de ressources et donc confrontés à la réticence des praticiens. À ma connaissance, aucune des approches existantes n’a jamais suggéré de combiner à la fois un cadre descriptif facile à utiliser et un cadre d’analyse adaptatif afin de combler le fossé entre théorie et pratique dans le suivi-évaluation des processus participatifs. Deuxièmement, cette thèse puise dans un large éventail de sciences sociales et de gestion et aide les universitaires travaillant sur les processus participatifs à entreprendre leur « voyage de recherche » de manière assurée. La plupart des études existantes se restreignent à l’un ou l’autre corpus, empêchant les chercheurs cherchant à s’inspirer à la fois des sciences sociales et de gestion de comprendre et de comparer les approches. Cette thèse présente une typologie qui permet aux chercheurs travaillant sur
la participation de clarifier leurs hypothèses sous-jacentes et d'identifier les approches de recherche dont ils peuvent s’inspirer pour suivre et évaluer leurs processus participatifs. Troisièmement, cette thèse contribue de manière originale à la littérature émergente sur l’« institutionnalisme critique » en explorant une application pratique de l'approche de bricolage institutionnel. Le concept de bricolage institutionnel a jusqu’à aujourd’hui principalement été utilisé pour analyser en profondeur des changements institutionnels. Aucune étude n’explore comment le bricolage institutionnel pourrait être déclenché volontairement par une intervention telle qu’un processus participatif. Enfin, cette thèse utilise la méthode de « processus de traçage » pour identifier les facteurs contextuels et procéduraux entrainant une émergence ou un changement institutionnel. À ma connaissance, cette méthode n’a jamais été utilisée dans la littérature pour identifier les facteurs concrets entraînant une dynamique institutionnelle.

**Mots clés**

Dynamiques institutionnelles ; gestion des ressources naturelles ; planification participative ; suivi et évaluation
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<tr>
<td>ABA</td>
<td>Abay Basin Authority</td>
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<td>ADB</td>
<td>Asian Development Bank</td>
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<td>ANU</td>
<td>Australian National University</td>
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<td>APA</td>
<td>American Psychological Association</td>
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<tr>
<td>BoEPLAU</td>
<td>Bureau of Environmental Protection and Land Administration and Use</td>
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<tr>
<td>CBO</td>
<td>Community-Based Organization</td>
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<tr>
<td>CDI</td>
<td>Centre for Development Innovation</td>
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<tr>
<td>CGIAR</td>
<td>Consortium of International Agricultural Research Centers</td>
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<tr>
<td>CIRAD</td>
<td>Centre de coopération internationale en recherche agronomique pour le développement</td>
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<td>CooPlan</td>
<td>COOperative PLANning</td>
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<td>COPP</td>
<td>Comparison of Participatory Processes</td>
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<td>Community Process Facilitator</td>
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<td>CPWF</td>
<td>Challenge Program on Water and Food</td>
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<td>CSIRO</td>
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<td>FAO</td>
<td>Food and Agriculture Organization</td>
</tr>
<tr>
<td>GIS</td>
<td>Groupement d'Intérêt Scientifique</td>
</tr>
<tr>
<td>GRN</td>
<td>Gestion Des Ressources Naturelles</td>
</tr>
<tr>
<td>IAP2</td>
<td>International Association for Public Participation</td>
</tr>
<tr>
<td>ICRAF</td>
<td>International Centre for Research in Agroforestry</td>
</tr>
<tr>
<td>IDRC</td>
<td>International Development Research Centre</td>
</tr>
<tr>
<td>ILRI</td>
<td>International Livestock Research Institute</td>
</tr>
<tr>
<td>INRM</td>
<td>Integrated Natural Resource Management</td>
</tr>
<tr>
<td>IRSTEA</td>
<td>Institut National de Recherche en Sciences et Technologies pour l’Environnement et l’Agriculture</td>
</tr>
<tr>
<td>IWMI</td>
<td>International Water Management Institute</td>
</tr>
<tr>
<td>JESE</td>
<td>Joint Effort to Save the Environment</td>
</tr>
<tr>
<td>KRC</td>
<td>Kabarole Research and Resource Centre</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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<td>--------------</td>
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</tr>
<tr>
<td>LC</td>
<td>Local Council</td>
</tr>
<tr>
<td>LRDPA</td>
<td>Livestock Resource Development and Protection Agency</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MEPPP</td>
<td>Monitoring and Evaluation of Participatory Planning Processes</td>
</tr>
<tr>
<td>MMU</td>
<td>Mountains of the Moon University</td>
</tr>
<tr>
<td>MoNRE</td>
<td>Ministry of Natural Resources and Environment</td>
</tr>
<tr>
<td>NBDC</td>
<td>Nile Basin Development Challenge</td>
</tr>
<tr>
<td>NEMA</td>
<td>National Environment Management Authority</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>ORDA</td>
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</tr>
<tr>
<td>RRDF</td>
<td>Rwenzori Regional Development Framework</td>
</tr>
<tr>
<td>SATNET</td>
<td>Sustainable Agricultural Trainers Network</td>
</tr>
<tr>
<td>SIWRR</td>
<td>Southern Institute of Water Resources Research</td>
</tr>
<tr>
<td>ToR</td>
<td>Terms of reference</td>
</tr>
<tr>
<td>UBOS</td>
<td>Uganda Bureau of Statistics</td>
</tr>
<tr>
<td>UMR G-Eau</td>
<td>Unité Mixte de Recherche Gestion de l'Eau, Acteurs, Usages</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNECE</td>
<td>United Nations Economic Commission for Europe</td>
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<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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Paper specifications

All collaborating authors agree to the inclusion of papers listed below, and agree to the description of their contribution to papers (where applicable).

**Chapter 1  A typology of social research approaches**

*Guiding social researchers engaged in applied research and using mixed methods*

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Katherine DANIELL, Jamie PITTOCK, Nils FERRAND, Olivier BARRETEAU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of contribution by candidate</td>
<td>The idea to do this paper came from the candidate. Emeline conducted research and wrote the paper. Katherine added the “participatory research” approach to the typology and helped to structure the argument for the selection of research approaches to be included. Jamie, Nils and Olivier assisted with editing and suggestions for improving the manuscript.</td>
</tr>
<tr>
<td>Status</td>
<td>Resubmitted/Under Review</td>
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<tr>
<td>Journal</td>
<td>Ecology and Society</td>
</tr>
<tr>
<td>Comments</td>
<td>This paper had previously been submitted to <em>Science Technology and Human Values Journal</em> (July 2014) and had been rejected (August 2014) without revision. It was then resubmitted to the <em>Journal of Mixed Methods Research</em> in September 2014 and was rejected in December 2014. After major revisions following reviewer recommendations, the paper was resubmitted to <em>Ecology and Society</em> in May 2015 and is currently under review.</td>
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## Chapter 2  Towards understanding participatory processes: framework, application and results

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Alex SMAJGL, John WARD</th>
</tr>
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<tbody>
<tr>
<td>Extent of contribution by candidate</td>
<td>The idea to do this paper and the development of the initial framework was a collaborative effort between Emeline and Alex. Discussions on the development of this paper started at the French Australian Water and Land Management Forum which took place in Canberra in June 2013. Emeline wrote sections 2.2 and 2.3 of the paper and contributed to section 2.4 with the Ugandan and Ethiopian cases. Alex wrote sections 2.1, 2.5 and 2.6 (introduction, discussion and conclusion) and contributed to section 2.4 with the Mekong cases. John provided suggestions for improving the framework and the manuscript and assisted with editing.</td>
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<tr>
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<td>Journal</td>
<td>Journal of Environmental Management</td>
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<td>The paper was submitted to the Journal of Environmental Management in November 2014. Major revisions were requested by editors in January 2015. After major revisions following reviewer recommendations, a revised version of the paper was sent to the journal in March 2015. The paper was accepted for publication in April 2015.</td>
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## Chapter 3  The MEPPP Framework: A framework for monitoring and evaluating participatory planning processes

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Jamie PITTOCK, Olivier BARRETEAU, Katherine DANIELL, Nils FERRAND</th>
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<td>Extent of contribution by candidate</td>
<td>The idea to do this paper was a collaborative effort. Initial design of the AfroMaison monitoring and evaluation protocol came from the dual initiative of Nils and Raphaëlle based on previous works. Data was collected jointly by Emeline, Nils, and evaluators from Mountains of the Moon University and SATNET in Uganda. Emeline conducted data analysis with support from evaluators and wrote the paper. Jamie, Olivier and Katherine assisted with editing and suggestions for improving the manuscript.</td>
</tr>
<tr>
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<td>Journal</td>
<td>Environmental Management Journal</td>
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<tr>
<td>Comments</td>
<td>The paper was submitted to the Environmental Management Journal in October 2014. Major revisions were requested by editors in January 2015. After major revisions following reviewer recommendations, a revised version of the paper was sent to the journal in March 2015.</td>
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### Chapter 4  Four challenges in selecting and implementing methods to monitor and evaluate participatory processes: example from the Rwenzori region, Uganda

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Raphaëlle DUCROT, Nils FERRAND, Olivier BARRETEAU, Katherine DANIELL, Jamie PITTOCK</th>
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<td>Extent of contribution by candidate</td>
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<tr>
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<tr>
<td>Journal</td>
<td>Journal of Environmental Management</td>
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<tr>
<td>Comments</td>
<td>The paper was submitted to the <em>Journal of Environmental Management</em> in January 2015. Moderate revisions were requested by editors in May 2015. After substantial revisions following reviewer recommendations, a revised version of the paper was sent to the journal in May 2015.</td>
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### Chapter 5  A participatory planning process as an arena for facilitating institutional bricolage

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Nils FERRAND, Jamie PITTOCK, Katherine DANIELL, Olivier BARRETEAU</th>
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<tr>
<td>Extent of contribution by candidate</td>
<td>The idea to do this paper was a collaborative effort. The participatory planning process was designed by the AfroMaison WP7 group under supervision of Raphaëlle and Nils, with key help of Geraldine ABRAMI, Sylvie MORARDET and Emeline. Tools and methods mainly came from Nils based on previous work. Data was collected jointly by Emeline, Nils, and evaluators from Mountains of the Moon University and SATNET in Uganda. Emeline conducted data analysis with support from evaluators and wrote the paper. Jamie, Katherine and Olivier assisted with editing and suggestions for improving the manuscript.</td>
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<tr>
<td>Journal</td>
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<tr>
<td>Comments</td>
<td>The paper was submitted to the <em>Society &amp; Natural Resources Journal</em> in June 2014. After two rounds of revision, it was accepted for publication in March 2015.</td>
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### Chapter 6  Drivers of environmental institutional dynamics in decentralized African countries

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Olivier BARRETEAU, Katherine DANIELL, Jamie PITTOCK, Nils FERRAND</th>
</tr>
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</table>

**Extent of contribution by candidate**
The idea to do this paper was a collaborative effort. Initial design of the AfroMaison monitoring and evaluation protocol came from the dual initiative of Nils and Raphaëlle based on previous work. Data collection methods mainly came from Nils based on previous work. Data was collected jointly by Emeline, Nils, and evaluators from Mountains of the Moon University and SATNET in Uganda and by Emeline and evaluators from ILRI and IWMI in Ethiopia. Emeline conducted data analysis with support from evaluators and wrote the paper. Olivier, Katherine and Jamie assisted with editing and suggestions for improving the manuscript.

<table>
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<tr>
<th>Status</th>
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<td>Journal</td>
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**Comments**
The paper was submitted to the *Environmental Management Journal* in January 2015. Major revisions were requested by editors in March 2015. After major revisions following reviewer recommendations, a revised version of the paper was sent to the journal in May 2015.

### Chapter 7  Operationalizing multi-scale INRM in Africa: Comparison of regional participatory planning processes in Ethiopia and Uganda

<table>
<thead>
<tr>
<th>Authors</th>
<th>Emeline HASSENFORDER, Nils FERRAND, Jamie PITTOCK, Olivier BARRETEAU, Katherine DANIELL, Zelalem LEMA, Moses MUHUMUZA, Thaddeo TIBASIIMA, Clovis KABASEKE</th>
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**Extent of contribution by candidate**
The idea to do this paper was a collaborative effort. The participatory planning process was designed by the AfroMaison WP7 group under supervision of Raphaëlle and Nils, with key help of Geraldine ABRAMI, Sylvie MORARDET and Emeline. Tools and methods mainly came from Nils based on previous work. Data was collected jointly by Emeline, Nils, Thaddeo, Clovis and evaluators from Mountains of the Moon University and SATNET in Uganda; and by Emeline, Zelalem and evaluators from ILRI and IWMI in Ethiopia. Emeline conducted data analysis with support from evaluators and wrote the paper. Moses, Thaddeo and Clovis contributed to writing section 7.4 on the Ugandan case. Zelalem contributed to writing section 7.3 on the Ethiopian case. Jamie, Olivier and Katherine assisted with editing and suggestions for improving the manuscript.

<table>
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<tr>
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<td>Journal</td>
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</tr>
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</table>
Chapter 8  Practicing relational leadership through managing frame diversity: Example from a participatory process in Ethiopia

Authors
Emeline HASSENFORDER, Marcela BRUGNACH, Beth CULLEN, Nils FERRAND, Olivier BARRETEAU, Katherine DANIELL, Jamie PITTOCK

Extent of contribution by candidate
The idea to do this paper was a collaborative effort. Design of the participatory planning process, monitoring and evaluation protocol and tools and methods was a collaborative effort between ILRI, IWMI and IRSTEA team members. Data was collected jointly by Emeline, Beth and evaluators from ILRI and IWMI in Ethiopia. Marcela and Nils provided conceptual and analytical advice. Beth provided analysis advice and contributed to section 8.4 on the Ethiopian case. Marcela, Beth, Nils, Olivier, Katherine and Jamie assisted with editing and suggestions for improving the manuscript.

Status
Submitted/Under Review

Journal
The Leadership Quarterly

Comments
The paper was submitted to the Leadership Quarterly Journal in May 2015 and is currently under review.

The eight chapters of this thesis are the same as the papers submitted to the above refereed journals as of the date of thesis submission. For ease of reading and continuity of this thesis, some minor modifications were made including changes to numbering of headings, figures and tables, referencing style and English spelling.

\[footnote{2}{This thesis follows the style established by APA (2015).}\]
Résumé substantiel

Problématique

Les ressources naturelles subissent une pression croissante dans divers endroits autour du globe. En Afrique, où les économies et les populations sont en croissance rapide, cette pression est encore plus grande. Les dégradations environnementales telles que la déforestation, la pollution, la surpêche et la dégradation des sols se poursuivent sans relâche dans la plupart des pays africains. L’incertitude liée aux changements climatiques et globaux, la multiplicité des ressources, des acteurs et des usages, et l’interconnexion entre les personnes et les lieux rendent ces questions environnementales particulièrement complexes. Cette complexité nécessite une gestion des ressources naturelles (GRN) qui soit intégrée et adaptive. Une approche, parmi d’autres, pour gérer les ressources naturelles de manière intégrée et adaptive est la planification participative. La planification participative peut être définie comme l’engagement des parties prenantes concernées dans l’identification des problèmes environnementaux et la planification des actions à mettre en œuvre afin de répondre à ces problèmes. Il est maintenant largement reconnu que les actions, décisions et plans découlant des processus de planification participative pour la GRN sont plus susceptibles d’être mis en œuvre et durables lorsqu’ils sont appuyés par des institutions adéquates.

Malgré une recherche et une pratique exponentielles sur les processus participatifs et le changement institutionnel, la capacité des processus de planification participative à livrer les résultats attendus, et à déclencher des dynamiques institutionnelles, est encore largement inconnue. Ceci s’explique par un certain nombre de facteurs. Premièrement, le suivi et l’évaluation des processus participatifs présentent des défis méthodologiques. Deuxièmement, la complexité de ces processus et leur enchâssement dans le contexte dans lequel ils se déroulent rendent l’identification de liens de causalité extrêmement difficile. Troisièmement, les approches institutionnelles existantes, lorsqu’elles sont mises en pratique, sont limitées dans leur capacité à soutenir les dynamiques institutionnelles.
Questions de recherche

La principale question de recherche de cette thèse est « Comment les processus de planification participative pour la GRN peuvent-ils déclencher des dynamiques institutionnelles appropriées afin de répondre de façon durable aux problématiques sociales et environnementales ciblées dans un contexte donné ? »

Cette question de recherche peut être divisée en quatre sous-questions :

- Comment les processus de planification participative, leurs contextes et leurs effets peuvent-ils être suivis et évalués ?
- Quel est le processus par lequel les processus de planification participative facilitent les dynamiques institutionnelles ?
- Quels aspects spécifiques du contexte social et environnemental (facteurs contextuels) et du processus de planification participative (facteurs procéduraux) déclenchent des dynamiques institutionnelles ?
- Quels sont les différents types de dynamiques institutionnelles déclenchées par des processus de planification participative ?

Afin de répondre à cette question de recherche et à ces sous-questions, cette thèse est divisée en deux parties principales : une partie méthodologique (répondant à la sous-question 1) et une partie résultats (répondant aux sous-questions 2 à 4). Les deux parties sont chacune divisées en quatre chapitres, tel qu’il illustré dans la Figure i. Les flèches en pointillés dans la Figure i représentent les liens supposés, ou hors du champ de cette thèse.
Cas d’étude

Ma thèse s’est déroulée dans le cadre d’un projet de recherche financé par l’Union Européenne appelé AfroMaison3. L’objectif d’AfroMaison était de « contribuer à mettre en pratique le concept de gestion...

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intégrée des ressources naturelles à l’échelle méso en Afrique » (traduit d’AfroMaison, 2014a). Le principal résultat du projet était une « boîte à outils » composée d’une série d’outils et d’approches pour soutenir la mise-en-œuvre de la GRN. Une de ces approches est une approche de planification participative couplée à un suivi-évaluation rigoureux des processus et des résultats. Le projet AfroMaison a été développé dans cinq régions d’Afrique. Deux des cinq cas d’AfroMaison ont été choisis comme cas d’étude pour ma thèse en raison du déploiement précoce des processus de planification et de l’intérêt des facilitateurs pour une telle réflexion : le district de Fogera en Éthiopie et la région des Rwenzori en Ouganda. Un processus de planification participative, adapté du projet AquaStress⁴ (Ferrand, Hare, & Rougier, 2006), a donc été mis au point dans la région Rwenzori et le district de Fogera comprenant six phases :

1. Accord procédural,
2. Evaluation et identification d’un objectif commun à long terme,
3. Proposition d’actions,
4. Sélection et intégration des actions,
5. Test du plan via un outil de simulation participative (jeu de rôle),


En tant que membre du projet AfroMaison, j’ai été impliquée dans la conception, la mise-en-œuvre et l’accompagnement du processus de planification participative, et ai donc adopté une position de recherche engagée et appliquée (David, 2002; Patton, 2015).

Un cadre a été élaboré pour suivre et évaluer ces processus de planification participative. Le cadre comprend trois groupes de variables liés au contexte, au processus de planification participative et à leurs effets. Les effets observés dans cette thèse sont les dynamiques institutionnelles. Chaque variable fait l’objet d’une question ou d’un élément inclus dans les méthodes de suivi-évaluation. Les méthodes utilisées dans cette thèse comprenaient un "journal de bord" (d’après Etienne, 2011) complété quotidiennement par les évaluateurs et enregistrant toutes les interventions, sessions,

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⁴ Projet intégré AquaStress (2005-2008): « Atténuation du stress hydrique grâce à de nouvelles approches visant à intégrer des instruments managériaux, techniques, économiques et institutionnels » financés par le 6ème programme-cadre de l’Union européenne, priorité 1.1.6.3 [Changement globaux et écosystèmes].
Résumé substantiel

interactions, événements et autres facteurs externes ou contextuels se déroulant dans la région. Chaque atelier a également été suivi à l’aide de listes d’émargement, du recensement des attentes des participants, de photos et de vidéos, d’un dispositif d’observation participante et de questionnaires. Plus de 100 questionnaires ont été complétés par les participants dans chaque étude de cas suite aux ateliers. 40 à 54 interviews ont été menées par les évaluateurs dans chaque étude de cas à différentes étapes du processus. La sélection des personnes interrogées a été réalisée suivant les techniques d’échantillonnage par choix raisonné et « boule de neige », tout en essayant d’assurer la représentativité des interviewés en termes de genre, d’origine géographique et de catégorie socio professionnelle. Les personnes interrogées étaient des facilitateurs, des participants et des non-participants. Les données qualitatives recueillies par l’intermédiaire de ces méthodes ont été analysées et codées suivant un processus à la fois inductif et déductif (Fereday & Muir-Cochrane, 2006). Les données recueillies par le biais des listes d’émargement, du recensement des attentes et des éléments de l’échelle de Likert présents dans les questionnaires ont été analysées de manière quantitative.

Conclusions

Les conclusions de la partie 1 fournissent des recommandations méthodologiques pour le suivi-évaluation des processus de planification participative, de leurs contextes et de leurs effets. Le chapitre 1 propose une typologie incluant sept approches de recherche. La typologie peut être utilisée par les évaluateurs et chercheurs désirant suivre et évaluer des processus participatifs pour : développer une réflexivité et clarifier les hypothèses sous-jacentes à leur recherche, vérifier la cohérence de ces hypothèses, et situer leur recherche dans l’éventail d’approches de recherche existantes. Ces approches de recherche peuvent les guider dans le choix et la combinaison des méthodes de suivi-évaluation. Clarifier leurs hypothèses sous-jacentes est également essentiel afin de communiquer leurs résultats à d’autres chercheurs et praticiens de manière transparente. Le chapitre 2 présente un cadre de comparaison des processus participatifs (COPP). Ce cadre descriptif est destiné à être utilisé pour analyser et comparer un large éventail de cas et de processus. Le cadre est présenté comme un « questionnaire à choix multiples », qui peut être facilement complété par les chercheurs, décideurs et praticiens. Le but de cette comparaison croisée est d’analyser l’efficacité des processus participatifs et de leurs éléments. Le cadre est également utile pour souligner les éléments à prendre en considération dans la conception des processus participatifs. Le chapitre 3 propose un cadre de suivi-évaluation des processus de planification participative (MEPPP) qui guide les évaluateurs à travers six phases afin de mettre en place le suivi-évaluation des processus de planification...
participative de leur choix. Le chapitre 4 traite des défis méthodologiques rencontrés par les évaluateurs lorsque qu’ils sélectionnent et mettent en œuvre des méthodes pour suivre et évaluer les processus participatifs. Ce chapitre fournit également des tableaux et des stratégies simples qui peuvent être utilisés pour répondre à chacun des défis identifiés.

La seconde partie utilise la méthodologie développée dans la partie 1 pour identifier les facteurs contextuels et procéduraux spécifiques entraînant des dynamiques institutionnelles ainsi que les processus d’influence qui entrent en jeu. Je démontre que les facteurs procéduraux peuvent être utilisés comme « leviers » par les facilitateurs afin de favoriser les dynamiques institutionnelles. Le chapitre 5 montre que plutôt que d’essayer de calquer des modèles institutionnels « tout faits », les processus de planification participative pourraient agir comme des « couloirs institutionnels » et ainsi créer les conditions favorables à un « bricolage institutionnel ». J’ai identifié cinq stratégies qui peuvent être utilisées afin que les processus de planification participative agissent comme des couloirs institutionnels. Le chapitre 6 utilise la méthode de « traçage procédural » couplée à une approche par « groupements causaux » pour identifier de façon systématique les facteurs contextuels et procéduraux ayant joué un rôle dans les dynamiques institutionnelles des cas éthiopien et ougandais.

Trois facteurs contextuels ont particulièrement influencé les dynamiques institutionnelles : le contexte socio-économique, les institutions formelles et informelles existantes (et leurs lacunes), et le contexte organisationnel et relationnel. Plusieurs facteurs procéduraux ont été identifiés. Ils ont été regroupés en trois groupes de leviers procéduraux liés aux participants, aux facilitateurs et au processus. Les chapitres 7 et 8 explorent plus en détail comment deux de ces leviers procéduraux, l’engagement de plusieurs échelles et la gestion de la diversité des cadres d’interprétation, peuvent être activés par les facilitateurs pour déclencher des dynamiques institutionnelles. Le chapitre 7 conclut que l’engagement simultané des échelles méso et locale dès le début du processus de planification semble plus efficace pour déclencher des dynamiques institutionnelles que d’utiliser l’échelle méso comme clé d’entrée vers les autres échelles. J’ai également identifié que le déploiement du processus à l’échelle nationale n’est pas forcément pertinent dans les premières étapes du processus. Il est souvent plus pertinent d’impliquer un ou deux acteurs nationaux clés pour légitimer le processus et faciliter l’intégration de la vision régionale et locale de la GRN au niveau national. Le chapitre 8 démontre que des résultats collaboratifs et des changements institutionnels sont plus susceptibles de se produire si les facilitateurs sont en mesure de gérer la diversité des cadres d’interprétation au sein des processus participatifs. Je détaille dans ce chapitre comment les facilitateurs peuvent identifier les différents cadres qui entrent en jeu dans leurs processus participatifs. Je suggère d’utiliser les cinq stratégies identifiées par (Brugnach, Dewulf, Henriksen, &
Van der Keur, 2011) pour gérer la diversité des cadres et favoriser la coopération. Je démontre que ces stratégies ont été à la fois stimulées et limitées par des contre-stratégies utilisées involontairement par les facilitateurs ou volontairement par les acteurs influents. Elles ont également été limitées par d’autres facteurs tels que la connaissance, les champions et les intérêts sous-jacents des participants (frame sponsorship).

**Contribution à la connaissance**

Cette thèse propose quatre principales contributions à la connaissance. Premièrement, elle aide à combler l’écart entre théorie et pratique au niveau du suivi-évaluation des processus participatifs en proposant un cadre de suivi-évaluation combinant une partie analytique et une partie descriptive. Les cadres de suivi-évaluation utilisés dans la pratique sont souvent sous la forme de grilles de critères « prêtes à l’emploi » qui ne sont pas adaptées à la spécificité de chaque cas, tandis que les cadres proposés dans la littérature sont souvent exigeants en terme de ressources et donc confrontés à la réticence des praticiens. À ma connaissance, aucune des approches existantes n’a jamais suggéré de combiner à la fois un cadre descriptif facile à utiliser et un cadre d’analyse adaptatif afin de combler le fossé entre théorie et pratique dans le suivi-évaluation des processus participatifs. Deuxièmement, cette thèse puise dans un large éventail de sciences sociales et de gestion et aide les universitaires travaillant sur les processus participatifs à entreprendre leur « voyage de recherche » de manière assurée. La plupart des études existantes se restreignent à l’un ou l’autre corpus, empêchant les chercheurs cherchant à s’inspirer à la fois des sciences sociales et de gestion de comprendre et de comparer les approches. Cette thèse présente une typologie qui permet aux chercheurs travaillant sur la participation de clarifier leurs hypothèses sous-jacentes et d’identifier les approches de recherche dont ils peuvent s’inspirer pour suivre et évaluer leurs processus participatifs. Troisièmement, cette thèse contribue de manière originale à la littérature émergente sur l’« institutionnalisme critique » en explorant une application pratique de l’approche de bricolage institutionnel. Le concept de bricolage institutionnel a jusqu’à aujourd’hui principalement été utilisé pour analyser en profondeur des changements institutionnels. Aucune étude n’explore comment le bricolage institutionnel pourrait être déclenché volontairement par une intervention telle qu’un processus participatif. Enfin, cette thèse utilise la méthode de « processus de traçage » pour identifier les facteurs contextuels et procéduraux entrainant une émergence ou un changement institutionnel. À ma connaissance, cette méthode n’a jamais été utilisée dans la littérature pour identifier les facteurs concrets entrainant une dynamique institutionnelle.
**Perspectives de recherche**

De plus amples recherches sont nécessaires afin d’explorer les conditions d’utilisation des outils participatifs et de l’adoption de l’approche de bricolage institutionnel. Des expérimentations dans le « monde réel » pourraient également permettre d’évaluer l’efficacité des recommandations suggérées dans cette thèse. Compte tenu de l’accélération de l’adoption d’approches participatives par la communauté du développement au cours des dernières décennies, il est nécessaire de continuer à combler l’écart entre théorie et pratique au niveau du suivi-évaluation des processus participatifs. Enfin, deux autres pistes de recherches apparaissent prometteuses. D’une part, d’autres approches de recherche pourraient être comparées via la typologie présentée dans le premier chapitre. D’autre part, de plus amples recherches sont nécessaires afin de découvrir comment prendre en compte les questions de pouvoir dans la facilitation et le suivi-évaluation des processus participatifs.

Bien qu’il existe encore beaucoup de zones à explorer, ma thèse a démontré qu’un processus de suivi-évaluation bien pensé peut permettre d’identifier les facteurs entrainant des dynamiques institutionnelles au sein des processus de planification participative. Étendre cette réflexion dans les années à venir permettra de soutenir une gestion des ressources naturelles permettant d’obtenir des résultats sociaux et environnementaux satisfaisants en Afrique et ailleurs dans le monde.
Introduction

Rationale of this thesis

Natural resources are under increasing pressure in various places around the globe. In Africa, where economies and populations are growing rapidly, this pressure is even greater (AfroMaison, 2014b). Environmental degradation such as deforestation, pollution, overfishing, and soil deterioration continues unabated in most African countries. Uncertainty linked to climate and global changes, multiplicity of resources, actors and uses, and the interconnection between people and places make these environmental issues particularly complex. This complexity requires natural resources to be managed in an integrated and adaptive manner (Campbell & Sayer, 2003; Pahl-Wostl, 2007). Such an integrated and adaptive approach entails managing natural resources across sectors and scales of management, encompassing both social and environmental systems and being flexible and able to cope with constantly-emerging challenges.

One among other possible approaches to manage natural resources in an integrated and adaptive manner is to involve relevant stakeholders in Natural Resource Management (NRM) (Gidley, Fien, Smith, Thomsen, & Smith, 2009; Walker et al., 2002). There is evidence that involving stakeholders in setting agenda, making decisions, and forming policy about the environment allows the embracing of a diversity of knowledge and viewpoints, to consider more comprehensive information inputs and therefore to manage natural resources in a more integrated and adaptive manner (Reed, 2008). Stakeholders, according to Glicken (2000), are people or organizations either affected by the management process or who can affect it. Stakeholders can include direct users such as farmers, fishers or hunters, governmental and non-governmental representatives, private sector individuals or organizations and researchers. There are typically two main claims in favour of stakeholder engagement in environmental decision making. The normative claim suggests that people have a democratic right to participate in environmental decision making (Reed, 2008). Indeed, participation is increasingly enshrined in national and international laws and conventions such as the United Nations Economic Commission for Europe’s 1998 Aarhus Convention (UNECE, 1998). The pragmatic claim advocates for participation as a means to increase the quality and durability of decisions (Beierle, 2002; Fischer, 2000).
Introduction

Stakeholders may be involved in various stages of environmental decision making, from concept development through planning, implementation, to monitoring and evaluation of outcomes. However, experience has shown that in many countries, and in Africa in particular, stakeholders often only get involved in the implementation phase (Reed, 2008). This can be a challenge as the decisions made may not reflect stakeholders’ needs and priorities, and stakeholders may not be willing to implement decisions to which they have not contributed (Chess & Purcell, 1999). Engagement of stakeholders right from the planning phase is therefore increasingly advocated (Beierle & Konisky, 2000; Smith, 1973). “Participatory planning is a process usually designed to address a specific issue, opportunity or problem with the intent of resolving or exploiting it successfully through the collaborative efforts of the crucial stakeholders. This means getting very specific about what is done, to what extent, by whom, for what purpose” (UN Habitat, 2001, p.20). Substantially, participatory planning entails engaging relevant stakeholders in the identification of environmental issues and the planning of actions to be implemented in order to address these issues.

The rationale underlying this approach asserts that by engaging beneficiary stakeholders in a participatory planning process, a collective vision can be established and effectively realized. Participatory planning processes have at least three advantages to effectively address environmental issues and establish an integrated and adaptive management of natural resources (Barreteau, Bots, & Daniell, 2010; Smajgl & Ward, 2013). First, local contextual knowledge can be accompanied with scientific knowledge and methodology to overcome the cognitive processing of complexity-based challenges. Second, during the participatory process, actual decision makers, planners, or community members can directly develop an understanding of their social-environmental system which can be readily translated into improved actions and decisions. Third, participants are more likely to apply the new systems’ understanding in the long term, beyond the temporal and planning targets of the initial participatory processes. It must be noted that despite the claims and benefits that have been expressed, the added-value of participation is not always evident (Cooke & Kothari, 2001). However, the recent decades have shown a growing consensus over best practices, learning from the mistakes and successes of this long participation history (e.g. Hickey & Mohan, 2005; Von Korff, Daniell, Moellenkamp, Bots, & Bijlsma, 2012). This thesis is based on this assumption, supported by many authors, that stakeholder participation in environmental planning is beneficial.

NRM work over recent decades in Africa has shown that actions, decisions and plans resulting from environmental participatory planning processes are more likely to be implemented and sustainable when supported by adequate institutions (Leroy, 2009; Stroud, 2003). For instance, if the participatory planning process leads to a decision to reduce deforestation through alternate sources of energy or
income, this decision will more likely be implemented and sustained if supported by formal or informal incentives or sanctions. Yet, as underlined by Acheson (2006, p.118) “Although there is agreement that institutions are needed to solve resource problems, there is no agreement as to what institutions would do the job best”.

Until the 1980’s, it was widely assumed that national governments were the only capable stakeholders for NRM (Andersson & Ostrom, 2008). This centralized power generally unfolded through top-down rules, sanctions and incentives, large-scale planning and high modernistic schemes. However, it was soon realized that centralized institutions, especially in Africa, have a number of traits that work against effective resource management (German et al., 2010). These include: a strong penchant for regulatory uniformity at the expense of local contexts, a strong emphasis in scientific and technical aspects and little interest in local culture and knowledge and little understanding of human social organization or behaviour leading to perverse incentives, to name just a few (Acheson, 2006). Centralized governments therefore often prove unable to provide an adaptive and integrative management of natural resources (Scott, 1998). In reaction, the decentralization of NRM responsibility to lower levels of governments became increasingly popular in the late 20th century (Larson & Soto, 2008). More and more researchers and practitioners have advocated for community-based NRM where local institutions manage the resources on which their livelihoods depend (Armitage, 2005; Leach, Mearns, & Scoones, 1999). Alternative solutions brought to the fore include co-management, where managerial authority is split between the government and local resource users (Berkes, 2009), and polycentric governance, where management is accomplished by multiple governing authorities at differing scales (Andersson & Ostrom, 2008; Ostrom, 2005). This shift in thinking has often been called shift of “government to governance” (Arts & Leroy, 2006).

However, the practical implementation of these “good governance” approaches has often fallen short of expectations (Grindle, 2007b; Leach et al., 1999). In many places, it resulted in "institutional monocropping" (Evans, 2004) or the imposition of blueprints based on idealized versions of institutions conveyed by now-developed countries (Booth, 2012). These pitfalls have led to the recognition that any attempt at supporting institutional change required, rather than imposing idealized institutions, to seek “ways to foster institutions that improve citizens' ability to make their own choices” (Evans 2004, p.36). It is therefore now increasingly acknowledged that by being involved in environmental planning, stakeholders can not only devise adapted and integrated ways to manage their natural resources, but also adequate institutions to support a sustainable NRM (Bebbington, 2005; Dyer et al., 2014; Paavola, 2007; Schultz, Duit & Folke, 2011). The question that this thesis seeks
to answer is: how can participatory planning processes for NRM foster useful social and institutional changes to more sustainably manage natural resources?

Summary of literature review and research gaps

The research for this thesis is contained in eight papers. Thus, the literature reviewed is only briefly summarised in this chapter, but is elaborated in detail and referenced in each of chapters 1–8 consistent with the thesis by compilation rules of ANU and AgroParisTech. The following sections focus on the methodological gap regarding the monitoring and evaluation of participatory processes and on institutional dynamics and the link with participatory processes.

Monitoring and evaluating participatory processes, their context and outcomes

Participation is now increasingly recognized and used as an essential element of policies and programs, especially related to NRM (Dyer et al., 2014; Vacik et al., 2014). Yet, participation can appear as a costly process for policymakers and debate is still ongoing regarding its real costs and outcomes (e.g. Cooke & Kothari, 2001; Williams, 2004). Indeed, the context in which the participatory process takes place, as well as the way the process is designed, may impact participatory processes (Barnes, Matka, & Sullivan, 2003; Burton, Goodlad, & Croft, 2006). They can influence the expected outcomes and costs of the process, but also generate positive or negative unintended consequences (Williams, 2004). Monitoring and evaluation (M&E) are therefore required to deepen our understanding of participatory processes, their context and their outcomes. I define monitoring and evaluation (M&E) broadly as the systematic inquiry of an object, such as a participatory process, which can be carried out for various purposes, by a variety of stakeholders, and at various points in time (based on Blackstock, Kelly & Horsey, 2007; Chess, 2000; Forss, 2005; Patton, 1982). M&E endeavours may have multiple purposes. Three are commonly highlighted for participatory processes (Forss, 2005): 1/ auditing the efficiency and effectiveness of the participatory process, 2/ supporting decisions about the participatory process, how it is carried out, what goes well or not so well and 3/ learning and documenting experiences. Evaluators may be independent judges, participants in a process, evaluation experts or researchers. The timing of the evaluation can be ex-ante, punctually during specific events, on an everyday basis, ex-post or long term. While participation now seems widely
accepted, systematic M&E of participatory processes, their context and their outcomes is still often lacking (Burton, 2009).

Various strands of literature have provided insights on how to monitor and evaluate participatory processes. Literature on participation provides some insights on variables to inform when monitoring and evaluating participatory processes in general (e.g. Abelson et al., 2003; Burton, 2009; Rosener, 1981; Rowe & Frewer, 2000) and related to NRM specifically (Beierle & Konisky, 2000; Bellamy, Walker, McDonald, & Syme, 2001; Dyer et al., 2014; Webley, 1995). Authors in this strand often offer static lists of variables to monitor and evaluate the “effectiveness” of participatory processes, often defined by the extent to which the process is participatory. Examples of variables include representativeness, transparency, early involvement of stakeholders, independence, fairness, or convenience. However, these static lists of variables do not necessarily adapt to the specificity of each process and context or to the diversity of M&E objectives (Krywkow, 2009). There is a need for more adaptive and generally applicable frameworks to monitor and evaluate participatory processes.

Several frameworks have recently been developed which can provide a valuable basis for developing a M&E framework adapted to the procedural and contextual circumstances at hand. For instance, ENCORE (Ferrand & Daniell, 2006; Ferrand, 2004 summarized in Daniell, 2012, p.65-66) is a model aiming at observing and qualifying the impacts of multi-level participatory processes. “ENCORE” stands for “External, Normative, Cognitive, Operational, Relational and Equity”. The framework aims at assessing the changes induced by a participatory process on these six dimensions. It was developed following experiences in the HarmoniCOP\(^5\) and AquaStress\(^6\) projects and through companion modelling exercises (Etienne, 2011). These references are equally useful for the development of a M&E framework adapted to various objectives, designs and contexts (e.g. Perez et al., 2011; Ridder, Mostert, & Wolters, 2005). More work is needed to help evaluators implementing these frameworks in practice and adapting them to their own process and context of focus while taking into consideration the degree of complexity of the system under consideration. In addition, while being adaptive, these frameworks prevent comparison across a wide range of cases. There is a need for systematic frameworks that structure a consistent descriptions of participatory processes across a

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\(^5\) **HarmoniCOP project** (2002-2005): “Harmonising Collaborative Planning” funded by the European Commission within the thematic programme “Energy, Environment and Sustainable Development”.

\(^6\) **AquaStress Integrated Project** (2005-2008): “Mitigation of water stress through new approaches to Integrating management, technical, economic and institutional instruments” funded by the 6th Framework Program of the European Union, Priority 1.1.6.3 [Global Change and Ecosystems].
diverse set of empirical situations (Chess, 2000). This would allow to capitalize on past efforts and experiences and would ease comparison across cases and projects.

Literature on evaluation provides useful guidelines and frameworks, often in the form of manuals, on how to carry out M&E (e.g. Fitz-Gibbon & Lyons Morris, 1987; IDRC, 1997; The World Bank, 2004; UNDP, 2009). Yet, evaluation is still a relatively recent field of study (Forss, 2005, Annex 4.A1) and, in its struggle to be recognized as a discipline, tends to focus on theoretical foundations rather than on concrete guidelines on how to operationalize these theories and principles (Midgley et al., 2013). Little guidance exists for example on which methods to choose, whether qualitative, quantitative or mixed; on whether to base the M&E on theory, participants’ views or both; on whether to centre the M&E on the process or its outcomes; on how to take into account the context of the participatory planning process; or on how to adapt the M&E methods to changing requirements while the process is on the way. As a result, many studies on participatory processes do not make the M&E methods used, nor the way they are implemented, transparent (Frewer & Rowe, 2005). This impacts the transparency, reliability and validity of the studies. In addition to more adaptive and generally applicable frameworks, guidance is therefore required in order to overcome methodological challenges in the M&E of participatory planning processes.

In addition to methods employed, another aspect which is also often obscure in published studies on participatory planning is the philosophical assumptions underlying the studies (Burton, 2009). Yet these assumptions underpin the design of the M&E and of the participatory process, and influence the coherence and validity of the results, as well as the way they are perceived (Midgley, 2000).

Literature focusing on specific research approaches applicable to engaged applied mixed methods research can be useful in that matter. Two main corpora in particular have worked to inform engaged applied mixed methods research: social sciences and management sciences. Examples of research approaches within these corpora include case study research (Yin, 2009), grounded theory (Corbin & Strauss, 1995), participatory research (Cornwall & Jewkes, 1995) and feminism (Stephens, 2013) in the former; and action research (Checkland & Holwell, 1998), intervention research (David, 2000; Hatchuel & Molet, 1986) and evaluation research (Rossi, Freeman, & Lipsey, 1999) in the latter. These approaches can guide researchers in research design, method selection and data analysis. However, imprecise terminologies (e.g. some authors use the word “paradigm” to define what others call “research approach”) (Merriam, 2002), lack of transparency of the philosophical assumptions underlying different forms of research and long-existing polarizations (e.g. qualitative/quantitative, positivism/interpretivism) can make it difficult for early career researchers, and doctoral students in particular, to navigate the array of existing research approaches (see also Mingers & Brocklesby,
Introduction

A typology is therefore needed to help participation researchers to develop reflexivity and clarify the key assumptions underlying their research, check the coherence of these assumptions, situate their research in the array of existing research approaches, and undertake their “research journey” (McGowan et al., 2014) with confidence.

Processes and drivers of institutional dynamics

When it comes to institutional dynamics, the literature is very prolific. Literature on institutional emergence and/or change in the political sciences, economics and social sciences has led to some significant advances in our understanding of the process and drivers of institutional dynamics. In particular, there are two main theoretical approaches to institutional change (Scott, 2010; Stroud, 2003): a structural or property approach which examines the structural forms or specific features of an institution and a process approach which stresses issues of institutional emergence and change. Both approaches help defining what an institution is, what types of institutions exist and attempt to identify drivers of institutional change. However, they tend to look only at parts of institutional dynamics. On the one hand, the majority of authors within the structural strand have focused on formal institutions (Helmke & Levitsky, 2004) and on the homogeneity and persistence of institutional phenomena (Dacin, Goodstein, & Scott, 2002), therefore overlooking informal institutions and the dynamic nature of institutional governance in socio-economic systems (Cleveringa, Kay, & Cohen, 2009). On the other hand, process approaches have difficulty respectively explaining changes in informal rules and accounting for collective action and the political process. Yet in many African countries where politics of decentralization took place (e.g. Uganda, Ethiopia, South Africa and Senegal), informal institutions such as traditional beliefs or corruption often have the capacity to shape environmental behaviour and outcomes more strongly than formal institutions (Helmke & Levitsky, 2004). In addition, most authors within both approaches distinguish between endogenous drivers, within the institutional structure or arena under consideration, and exogenous drivers, within the broader environment (e.g. Ostrom, 2005; Saleth, 2006; Stroud, 2003; Wiering & Crabbé, 2006; Young, 2010). However, most authors focus on exogenous drivers (Kingston & Caballero, 2008), without detailing precisely what these drivers are. More importantly, they undermine the importance of endogenous drivers, which are yet essential to consider when institutional emergence or change is triggered by an intervention such as a participatory planning process. I argue that in order to understand institutional dynamics as a whole, there is a need to be at the crossroads of these dualities, by taking into account both structures and processes, formal and informal institutions and endogenous and exogenous drivers.
If we want to understand how environmental participatory planning processes can trigger institutional dynamics, we need to understand not only the drivers of institutional dynamics but also how participatory planning processes can trigger institutional dynamics such that they are adapted to the context of the intervention and adapt to changing circumstances. Three main approaches exist looking at how institutions change as a response to social-environmental issues: institutional crafting or design (e.g. Cox, Arnold & Tomás, 2010; Ostrom, 2005), institutional fit (e.g. Young, 2008) and institutional bricolage (e.g. Cleaver, 2012; Douglas, 1986). Institutional crafting generally consists of identifying universally applicable “design principles” providing a basis for “crafting”, and even “engineering” institutions (Merrey & Cook, 2012; Ostrom, 2005). Institutional fit consists of identifying and evaluating the key characteristics of individual situations and crafting specific institutions to fit the circumstances encountered (Young, 2008). Unlike Institutional crafting, it is based upon recognition of the importance of contextual factors (see section 5.1 for further detail on the distinction between these approaches). These first two approaches have been applied by many donors and development agents over the past decade. Although these approaches are widely used, criticisms have started to emerge regarding their application on the ground. Criticisms are based on the recognition that these approaches, when applied in practice, often lead to the creation of institutions that are incompatible with the specific needs of community and place and have, thus, been unable to deliver the expected results (Booth, 2012; Lejano & Shankar, 2012; Mahanty & Dang, 2013). The third approach, institutional bricolage, seems a promising concept. It questions the assumption that designing the correct institutional arrangements will further good governance and development (ADB, 1999; Grindle, 2007a). It is based on the idea that individuals consciously and subconsciously draw on existing social formulae to patch or piece institutions together in response to changing situations (Cleaver, 2012). In this thesis, I develop the idea that participatory processes could create favourable conditions for institutional bricolage to occur. To our knowledge, such a practical application of the institutional bricolage approach within the context of development has never been implemented.

Two aspects are therefore essential to understand how participatory planning processes for NRM can foster useful social and institutional changes to more sustainably manage natural resources. First, it is crucial to strengthen methodological aspects to monitor and evaluate participatory processes, their context and their outcomes. Second, it is essential to be able to identify institutional dynamics taking place and how participatory planning processes can trigger these dynamics without imposing preconceived institutional models.
Research questions

The main research question of this PhD is:

How can participatory planning processes for NRM trigger suitable institutional dynamics to more sustainably address social and environmental issues of concern in a given context?

This research question can be divided into four sub-questions:

1. How can participatory planning processes, their contexts and their outcomes be monitored and evaluated?
2. What is the process through which participatory planning processes facilitate institutional dynamics?
3. What specific aspects of the social and environmental context (contextual drivers) and of the participatory planning process (procedural drivers) trigger institutional dynamics?
4. What are the different types of institutional dynamics triggered by participatory planning processes?
Clarification of the main terms used in this thesis

Table i clarifies the definitions of the main terms used in this thesis.

**Table i. Definitions of the main terms used in this thesis**

<table>
<thead>
<tr>
<th>Definitions Used in This Thesis</th>
<th>To be distinguished from...</th>
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<tbody>
<tr>
<td><strong>Stakeholders</strong></td>
<td>Participants involved in the participatory process. All participants are stakeholders but not all stakeholders are participants.</td>
</tr>
<tr>
<td>Individuals or organizations either affected by the environmental management process or who can affect it (Glick, 2000).</td>
<td></td>
</tr>
<tr>
<td><strong>Facilitators</strong></td>
<td>Evaluators</td>
</tr>
<tr>
<td>Individuals instigating, designing and/or supporting the participatory process (based on Groot &amp; Maarleveld, 2000; Kaner, 2014).</td>
<td>Individuals designing, implementing and analysing the monitoring and evaluation process and its results. They can be facilitators, participants or external evaluators. E.g. representatives of a development agency, researchers or professional independent consultants.</td>
</tr>
<tr>
<td>They can also be, but do not have to be, stakeholders and/or evaluators. They can be researchers, decision makers, representatives of a development agency, or professional facilitators.</td>
<td></td>
</tr>
<tr>
<td><strong>Monitoring and evaluation (M&amp;E)</strong></td>
<td>Research</td>
</tr>
<tr>
<td>Systematic inquiry of an object, which can be carried out for various purposes, by a variety of stakeholders, and at various points in time (based on Blackstock et al., 2007; Chess, 2000; Forss, 2005; Patton, 1982).</td>
<td>Depending on the disciplines, the terms “research” on and “M&amp;E” of participatory processes tend to be used interchangeably. As do “data collection methods” and “M&amp;E methods”, and “researchers” and “evaluators”. For a purpose of clarity, I use the terms “monitoring and evaluation (M&amp;E)” in the rest of this thesis.</td>
</tr>
<tr>
<td><strong>Data collection or M&amp;E methods</strong></td>
<td>Participatory tools</td>
</tr>
<tr>
<td>Techniques or procedures used to obtain and collate raw data on the participatory process. E.g. interviews, questionnaires, participant observation.</td>
<td>Exercises or techniques used to engage participants in the participatory process and elicit their views and/or actions. E.g.: role-playing games, participatory mapping, scenario-building.</td>
</tr>
<tr>
<td><strong>Variables</strong></td>
<td>Criteria</td>
</tr>
<tr>
<td>Elements of the participatory process, context and outcomes to be monitored and evaluated. Variables are liable to vary or change. E.g. “representativeness of the participants.”</td>
<td>A principle or standard against which variables can be evaluated. Criteria are used as a basis for comparison, a reference point. E.g. “participants shall include at least one representative of each organization involved in NRM in the region.”</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>Outputs</td>
</tr>
<tr>
<td>Effects of the process on the social-environmental system. E.g. improved farming practices, increased trust.</td>
<td>Immediate products of the process. E.g. action plan, environmental policy, report, model.</td>
</tr>
<tr>
<td><strong>Impacts</strong></td>
<td>Extent to which the participatory process play influential roles in solving or at least alleviating the concerns leading to its creation. E.g. environmental restoration, conflict resolution (adapted from Young, 2008).</td>
</tr>
<tr>
<td><strong>Institution</strong></td>
<td><strong>Organization</strong></td>
</tr>
<tr>
<td>Normative and cognitive frames, formal or informal, to which stakeholders refer when they are engaged in collective action. Normative frames include rules, norms and procedures. Cognitive frames include identity, culture, representations and common beliefs. These frames can be individual or collective. (based on Bourdieau, 1980; Douglas, 1986; North, 1990; Ostrom, 2005). They survive and duplicate without particular mobilization, through social and political self-maintained and routinized mechanisms (translated from Lascoumes &amp; Le Galès, 2007).</td>
<td>Bodies of agents or groups of individuals. E.g. associations, environment committees, cooperatives or governmental administrations (North, 1990). An organization is therefore composed of the actual actors, while an institution is the normative and cognitive frame that actors follow.</td>
</tr>
</tbody>
</table>
As each chapter of this thesis constitutes a paper submitted to a specific journal, the terminology used might not always be consistent throughout the thesis. Each chapter adopted the terminology which would fit best to the journal field of research and readership. For instance, if the term “meso scale” is used in most chapters, chapter 7 uses the term “regional scale” to define the spatial intermediary dimension between local, or community scale and national scale. Definitions of all key terms are provided in each chapter.

**Thesis structure and content**

In order to address the research question and sub-questions, this thesis is divided into two main parts: a methodological part (addressing sub-question 1) and a results part (addressing sub-questions 2 to 4). Part 1 and part 2 are each divided into four chapters, as illustrated in Figure ii.
In part 1, I explore the methodology for monitoring and evaluating participatory planning processes and their outcomes. I start by identifying the relevant research approaches for engaged applied mixed methods research which could guide my work (chapter 1). I then develop two monitoring and evaluation frameworks. The descriptive framework includes aspects to be monitored and evaluated across all participatory processes, including but not limited to, planning (chapter 2). It is aimed to be used for diagnostic and comparison purposes across a wide range of cases and processes. The analytical framework includes aspects that are specific to the context, process and outcomes of my research (chapter 3). Both frameworks provide a list of variables to be monitored and evaluated in...
order to analyse participatory planning processes, their contexts and their outcomes. I then identify the methodological challenges often faced by researchers, practitioners and decision makers in the monitoring and evaluation of environmental participatory processes and develop a set of simple tables and strategies that could tackle these challenges (chapter 4).

In part 2, I use the methodology developed in part 1 to identify the specific contextual and procedural drivers leading to institutional dynamics and the influence process at stake. I start by identifying the process through which participatory planning processes facilitate institutional dynamics by using the concept of institutional bricolage (chapter 5). I then explore the institutional dynamics at play in my two case study areas by distinguishing between six concepts which are useful for identifying, describing and analysing institutional dynamics: formal and informal; institutions and organizations; and emergence and change (chapter 6). In the same chapter, I then use the process-tracing method to identify the contextual and procedural drivers which triggered these dynamics. I assume that procedural drivers can be used as “levers” by facilitators to foster institutional bricolage. In the remaining two chapters, I focus on two procedural levers identified earlier on: the scale of the participatory planning process (chapter 7) and the problem-framing phase (chapter 8).

This thesis is structured as a series of eight connected papers, each forming one chapter. These papers have been published, accepted or submitted for publication at the time of thesis submission. All papers were intended as stand-alone pieces of work. For this reason, there is some unavoidable repetition between chapters, for example in the description of the methodology, of the participatory process or of the case study areas. This structure follows the Australian National University and AgroParisTech rules for thesis by compilation.

[7 ANU College of Medicine, Biology and Environment, Guidelines on Thesis by compilation (2010)
Case studies

My PhD took place in the frame of a European Union funded research project called AfroMaison. The project partly funded my research, along with the UNESCO Chair in Water Economics and Transboundary Water Governance, and the Fenner School of Environment and Society, at The Australian National University.

AfroMaison’s objective was to "contribute to bringing the concept of Integrated Natural Resources Management (INRM) into practice at the meso-scale" (AfroMaison, 2010, p.6). The main output of the project was a “toolbox” comprising a series of tools and approaches to support practical implementation of integrated NRM. Examples of tools and approaches include an integrative and participatory planning approach, ecosystem services approach, spatial planning tools, economic tools and incentives, scenario-building approach and spatial data infrastructure (AfroMaison, 2014b). The project was developed in five areas across Africa: the Oum Zessar watershed in Tunisia, the Inner Niger Delta in Mali, the Fogera woreda (district) in Ethiopia, the Rwenzori region in Uganda and the Drakensberg in South Africa. Two of the five AfroMaison cases were selected as case studies for my thesis due to their early uptake of planning processes and the interest of facilitators in such a reflection: the Fogera woreda in Ethiopia and the Rwenzori region in Uganda. Their localization is shown in Figure iii.

---


9 All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the European Commission 7th Framework Program ethical standards (2013): http://ec.europa.eu/research/participants/data/ref/fp7/89888/ethics-for-researchers_en.pdf

Informed consent was obtained from all individual participants included in the study.
The AfroMaison project included eight work-packages, one of which was dedicated to the development and implementation of participatory planning processes for integrated NRM at the meso scale. A participatory planning process, adapted from the AquaStress project (Ferrand et al., 2006), was therefore developed in the Rwenzori and the Fogera areas comprising six phases, as illustrated in Figure iv.
In Ethiopia, facilitators of the process were eleven researchers from international research institutes based in Addis Ababa. In Uganda, facilitators were six local researchers from Mountains of the Moon community University based in the Rwenzori region. As a member of AfroMaison project, I was involved in designing, implementing and supporting the participatory planning process, therefore taking an engaged and applied research position (David, 2002; Patton, 2015). The participatory planning processes were developed through a series of workshops held between April 2012 and September 2013. Stakeholders affected by or affecting NRM in the Rwenzori and in Fogera are farmers, fishermen, governmental and non-governmental representatives, religious leaders, private sector individuals or organizations, journalists, teachers and researchers. A representative sample of these stakeholders, in terms of gender, geographical provenance and profession, was invited to participate in the workshops. Table ii summarizes the main differences between the two case studies.

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**Figure iv. The participatory planning process**
Table ii. Main differences between the two cases

<table>
<thead>
<tr>
<th></th>
<th>FOGERA, ETHIOPIA</th>
<th>RWENZORI, UGANDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size and population of</td>
<td>1,030 km²</td>
<td>14,000 km²</td>
</tr>
<tr>
<td>the area</td>
<td>230,000 people</td>
<td>2,4 million people</td>
</tr>
<tr>
<td>Participants in the</td>
<td>Meso: 38 to 52 per workshop</td>
<td>Meso: 29 to 68 per workshop</td>
</tr>
<tr>
<td>process</td>
<td>Local: 597</td>
<td>National: 1</td>
</tr>
<tr>
<td>Number of workshops</td>
<td>Meso: 3</td>
<td>Meso: 4</td>
</tr>
<tr>
<td></td>
<td>Local: 3 to 9</td>
<td></td>
</tr>
<tr>
<td>Duration</td>
<td>10 months (December 2012 to</td>
<td>Meso: 16 months (April 2012 to July 2013)</td>
</tr>
<tr>
<td></td>
<td>September 2013)</td>
<td>Local: 12 months (January to December 2013)</td>
</tr>
<tr>
<td>Facilitators</td>
<td>Researchers from Addis Ababa</td>
<td>Community university from the region</td>
</tr>
<tr>
<td>Focal issue</td>
<td>Free grazing</td>
<td>Land degradation, poverty, water</td>
</tr>
<tr>
<td></td>
<td>Soil erosion</td>
<td>pollution, deforestation,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>population increase</td>
</tr>
<tr>
<td>Scale</td>
<td>Unique scale: meso group split into</td>
<td>Multiple scales:</td>
</tr>
<tr>
<td></td>
<td>two subgroups in parallel:</td>
<td>local/meso/national</td>
</tr>
<tr>
<td></td>
<td>Decision makers/farmers</td>
<td></td>
</tr>
<tr>
<td>Role-Playing-Games</td>
<td>Meso game used as a basis for planning</td>
<td>Meso game</td>
</tr>
<tr>
<td></td>
<td>Local game used to discuss</td>
<td>used to test plan and as a basis for planning</td>
</tr>
<tr>
<td></td>
<td>constraints</td>
<td></td>
</tr>
</tbody>
</table>

The methodology presented in part 1 of this thesis allowed the monitoring and evaluation of the two participatory planning processes, their contexts and their outcomes to be undertaken. This methodology was developed and implemented in collaboration with project partners locally and internationally. Analysis of the results led to the conclusions presented in part 2. Table iii shows the representativeness of the two case studies in the eight chapters of this thesis.

Table iii. Representativeness of the case studies in the eight chapters

<table>
<thead>
<tr>
<th></th>
<th>RWENZORI</th>
<th>FOGERA</th>
</tr>
</thead>
<tbody>
<tr>
<td>PART 1 – MONITORING &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EVALUATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAPTER 1 • APPROACH</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CHAPTER 2 • DESCRIPTIVE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRAMEWORK</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CHAPTER 3 • ANALYTICAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRAMEWORK</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 4 • METHODS</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>PART 2 – INSTITUTIONAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DYNAMICS</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>CHAPTER 5 • INSTITUTIONAL BRICOLAGE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAPTER 6 • INSTITUTIONAL DYNAMICS</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CHAPTER 7 • SCALE</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CHAPTER 8 • PROBLEM FRAMING</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Assumptions and scope

Dotted arrows in Figure ii represent relationships which are assumed, or out of the scope of this thesis. The main assumptions underlying this thesis, for which arguments have been set out earlier in this introduction, are:
I assume that participatory planning is one approach for developing integrated and adaptive NRM and that it will contribute to address the social-environmental issues of concern. Several authors support this assumption (e.g. Barreteau et al., 2010; Smajgl & Ward, 2013) and I explore it further in chapter 2. Therefore, this thesis does not investigate the rationale for developing a participatory planning process, that is the adequacy between the approach chosen (i.e. the participatory planning process) and the social-environmental issues of concern. I do not compare participatory planning processes with other participatory processes or other integrated and adaptive NRM approaches.

I assume that in order for the actions and decisions (participatory plans) to be implemented and sustainable, they need to be supported by adequate institutions. This assumption is grounded in the literature (e.g. Leroy, 2009; Stroud, 2003) and forms the rationale for AfroMaison project and this thesis.

Participatory planning processes in Ethiopia and Uganda ended respectively in September and December 2013. AfroMaison project ended in April 2014, as did the field work period of this PhD. The scope of AfroMaison project was to support the development of the participatory planning processes and of the stakeholders’ capacity to implement the plans but not to actually fund the implementation of the plans. Due to these time frames and scope, this thesis focuses on the short-term and midterm outcomes of the participatory planning processes, up to 18 months after the end of the processes. Longer-term impacts are out of the scope of this thesis. These include actual plan implementation and to what extent it helps addressing the social-environmental problem of focus, and long-term formal institutional changes such as changes in environmental policies.

Findings and recommendations are detailed in the discussions and conclusions of each chapter and summarized in the overall conclusion of this thesis. These recommendations aim at guiding researchers, practitioners and decision makers in the monitoring and evaluation of their own participatory processes and in understanding which aspects of participatory planning processes they should focus on in order to trigger the institutional dynamics necessary to support social and environmental changes. Ultimately, this should contribute to managing natural resources in a more integrated and adaptive manner in Africa and elsewhere.
PART 1
MONITORING & EVALUATION
Chapter 1 • Undertaking the research journey: a typology of approaches for complex systems research

Abstract

The complexity of social-ecological systems requires researchers to adopt a complex systems research approach. This paper focuses on complex systems research which is transdisciplinary, engaged, in that researchers are embedded in the observed system, applied and using mixed methods. Various research approaches exist which may guide complex systems researchers in their investigation. The breadth of options available can be illustrated by a “research journey”. However, few guidelines exist to help researchers undertake such journey. Building on existing theoretical debates about approaches, methods, paradigms and assumptions, this paper aims at helping complex systems researchers to undertake their research journey with more confidence. Specifically, this paper provides a typology of research approaches which can guide complex systems researchers, especially those beginning their research career, to develop reflexivity and clarify the key assumptions underlying their research, check the coherence of these assumptions, and situate their research in the array of existing research approaches. By identifying which approaches bear similar or contradictory philosophical assumptions to their own, complex systems researchers can then undertake more informed reading and use of the literature. They can also more easily communicate their findings and cooperate with researchers with similar interests and different skill sets. Seven research approaches are included in the typology: case study, grounded theory, participatory research, feminism, action research, intervention research and evaluation research. An illustration of the potential use of this typology is provided through the example of the first author’s doctoral research. The paper concludes on the added-value and limits of the typology and emphasizes aspects of coherence, reflexivity and transparency in complex systems research.

Key words

Applied research; complexity; epistemology; ontology; philosophical assumptions; research methods
1.1 Introduction

Social-ecological systems are complex (Berkes, Colding, & Folke, 2003). They are characterized, among other features, by cross-scale interactions, nonlinear feedback, uncertainty, resilience to change, self-organization, and emergence (Gunderson & Holling, 2002). As a result, researchers face enormous challenges when confronting this complexity in their work (Walker et al., 2002). Traditional scientific methods, founded on a reductionist paradigm, are a poor fit for complex systems and situations (Berkes et al., 2003). As a result, researchers willing to understand the relationship between people and the environment need to adopt a complex systems research approach. Complex systems research is typically characterized by transdisciplinarity (Cundill, Fabricius, & Marti, 2005), self-reflection (Preiser, 2012) and embeddedness of the researcher in the observed system (Midgley, 2000). Complex systems researchers also increasingly often seek to develop applied research (Rogers et al., 2013), where they can generate both practical knowledge which is useful for action and more generic theoretical knowledge. Many contemporary researchers will probably recognize themselves in this description. This encompasses for example research on participatory processes, poverty, gender, business processes, environmental management or policy-making.

Various terms have been coined in the literature to designate such complex systems research. Cundill et al. (2005), for example, call for “integrated approaches”, Audouin et al. (2013) for a self-reflexive, post-reductionist position, and McGowan et al. (2014) for a “more integrative style of inquiry”. A commonality among these authors is that they all emphasize the need for complex systems researchers to draw from various research approaches and use mixed methods, combining elements of qualitative and quantitative viewpoints, data collection, analysis, and inference techniques (Johnson & Onwuegbuzie, 2004). As highlighted by Rosen (1987, in McGowan et al., 2014, p.3) “no one method is sufficient to appreciate the dynamic, emergent, multi-scale behaviour of complex systems”. In this paper, we will thus focus on complex systems research which is engaged, applied, and using mixed methods.

We will adopt in this paper the concept developed by McGowan et al. (2014, p.1) of a “research journey”: “the research journey underlines the breadth of options researchers follow to appreciate and engage with that complexity […]; researchers knowingly move across a “landscape” where different research methods are located”. However, the breadth of the landscape, characterized by the number of existing research approaches and methods which complex systems researchers may draw from, is immense. Research approaches range from case study analyses (Yin, 2009) to grounded
Undertaking the research journey: a typology of approaches for complex systems research

theory (Corbin & Strauss, 2015) or action research (Checkland & Holwell, 1998). With such choice available, early career researchers, multi-disciplinary scholars new to complex systems research and doctoral students in particular, may find it difficult to undertake the research journey. They can “quickly become confused and frustrated by the many directions in which their analyses are pulled” (Cundill et al., 2005, p.2). They often ask questions such as: is it possible to mobilize several research approaches while maintaining the coherence and validity of the research? Are some approaches incompatible with one another? Are there specific methods associated with each of these approaches? There is an overall lack of guidance in adopting integrated approaches (Cundill et al., 2005).

Some authors have, nevertheless, started underlining skills and awareness which complex systems researchers need to acquire in order to be able to undertake the research journey, and to study complex social-ecological systems. Notably, they need to engage with various knowledge types and forms (Berkes et al., 2003), including academic and practical knowledge (McGowan et al., 2014). They also need an ability to elicit, and an awareness of, hidden assumptions and values that influence the research process (Audouin et al., 2013). Researchers need to make their research approach and their relative position in the field explicit and transparent (Audouin et al., 2013; Rogers et al., 2013). These skills and awareness are expected to help complex systems researchers to craft their own research approach with confidence, more easily communicate findings and facilitate cooperation among researchers with similar interests and different skill sets. Ultimately, this would facilitate the study of complex social-ecological systems.

The objective of this paper is to help complex systems researchers to gain these skills and awareness to undertake the research journey with more confidence. Specifically, this paper provides a typology of research approaches which can guide complex systems researchers, especially those beginning their research career, to:

- Develop reflexivity and clarify the key assumptions underlying their research,
- Check the coherence of these assumptions, and
- Situate their research in the array of existing research approaches to identify which approaches bear similar or contradictory philosophical assumptions to their own, thus hopefully helping them undertake more informed reading and use of the literature.

In order to meet this objective, this article starts by an overview of the theoretical debates on the use of mixed paradigms, methodologies and methods. This overview highlights the need for a typology of
undertaking the research journey: a typology of approaches for complex systems research. We then clarify the definitions of key terms that are used in this paper. The following section presents a review of relevant existing categorizations of research approaches. We then present an index of existing research approaches and explain the selection process to identify the seven which are included in our typology. The next section presents a typology based on six key assumptions. The seven research approaches are classified along these assumptions. In the penultimate section an example is provided illustrating the use of the typology for a specific research. The conclusion highlights the added-value and limits of the typology and emphasizes aspects of coherence, reflexivity and transparency in complex systems research.

1.2 Existing theoretical debates and rationale for a typology

Adopting different methods and research approaches raises a number of problems. These problems mainly relate to the fact that different methods or approaches are underpinned by different assumptions. In other terms, they belong to different paradigms. Paradigms can be broadly defined as particular combinations of assumptions (Mingers, 2003, p.559). The term was first defined in relation to scientific research by Kuhn (1962) and further expanded by Burrell and Morgan (1979) who defined it as groupings of theoretical approaches with similar onto-epistemological foundations.

Mingers and Brocklesby (1997) have identified three main problems which researchers may face when adopting a pluralist position. The philosophical problem relates to the fact that such position may not be theoretically coherent because different methods embody the contradictory assumptions of different paradigms. The cultural problem relates to the constraints imposed by academic communities to employ methodologies or methods which correspond to their particular values or beliefs. The psychological problem relates to the fact that researchers have psychologically ingrained preferences and that moving from one paradigm to another or working in a paradigm that calls for actions and behaviours that do not “fit” their preferences may create discomfort and require too much intellectual effort. In addition to these philosophical, cultural and psychological problems, there is a terminology problem. In complex systems research many terms are open to various interpretations and/or tend to be used interchangeably (e.g. research approach, paradigms, methodologies) creating confusion among complex systems research scholars (Grix, 2002). The terminology used in this paper is presented in the next section.
Throughout the second half of the 20th century and the beginning of the 21st century, authors have looked for solutions to this “paradigm problem”. Major contributions have been made in the management science, operational research and systems thinking literatures. Similar attempts occurred in other disciplines including organizational studies (e.g. Willmott, 1993), sociology (e.g. Olsen, 2004) and philosophy (e.g. Watson, 1990). Among the initial solutions identified to this “paradigm problem” is meta-paradigmatic thinking (Flood & Jackson, 1991; Flood, 1990; Jackson, 1991) which advised the use of a meta-theory guiding the practical use of sub-paradigms. This solution was later abandoned when it was realized that instead of rising the paradigm debate, it was setting up new paradigmatic assumptions (Midgley, 2000). Midgley (2000) proposed a new paradigm. He suggested that, instead of claiming that they were operating across paradigms, researchers just needed to acknowledge that they were setting up a new position based on learning from other paradigms but reinterpreted in their own terms. Others have suggested alternative solutions including Gregory's (1996) critical attitude towards alien paradigms, Yolles’ (1996) virtual paradigms, Flood and Romm's (1996) paradigm (in)commensurability and Hassard's (1991) paradigm mediation. Other authors claim that the “paradigm war” is over and advocate for beyond-paradigmatic approaches. This is the case of Bhaskar (1994), for example, who advises to focus on transitive and intransitive objects of knowledge rather than on paradigms. Giddens' (1984) structuration theory is another example. He argues that in order to reach complete understanding, researchers need to consider both “objective” structures and “subjective” meanings. Other beyond-paradigmatic authors belong to pragmatism, which is based on the assumption that what and how realities might be crafted, and how methodologies might be used, is endlessly uncertain (e.g. Latour, 2005). Pragmatists do not confine themselves in a single paradigm (Zhu, 2011).

Our aim here is not to provide a full account of these paradigmatic debates. Others have done it (e.g. Midgley, 2000; Mingers & Gill, 1997). The underlying idea across all these debates, however, is that researchers can use different methods and approaches but that they need to do it in a coherent way, by acknowledging the assumptions underpinning the various approaches. Some authors, including pragmatists, disagree with this assertion. They are sceptical about the value of philosophy and the importance of clarifying one’s philosophical assumptions (e.g. Ormerod, 1996). But we agree with Midgley (2000) who provides two reasons for engaging with philosophy. First, researchers advocating an alternative research practice risk defeat against dominant practices unless they are justified with reference to philosophy. Second, he demonstrates that philosophical arguments have implications for the construction of methods and that philosophical assumptions therefore require consideration. In order to be able to mix approaches and methods and design their own research arrangements with
Confidence, complex systems researchers therefore need to clarify their underlying assumptions and check their coherence. Our typology helps them to do just that. We first start by clarifying the terminology used in this paper.

### 1.3 Terminology used in this paper

Considering the confusion around terms in the literature, in Table 1.1 we define which terms we are using in this paper for specific purposes. We have also noted the commonly used alternative terms for these purposes in an attempt to enhance transparency and communication with other researchers and practitioners.

#### Table 1.1. Terminology used in this paper

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
<th>EXAMPLES</th>
<th>AUTHORS USING THE SAME TERM WITH THE SAME MEANING</th>
<th>DIFFERENT TERMS USED FOR THE SAME MEANING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theoretical perspective</td>
<td>Approach to understanding and explaining society and the human world (Crotty, 1998)</td>
<td>Positivism, critical realism, reflexivism, interpretivism, constructivism, pragmatism, postmodernism, functionalism (i.e. most “-isms”)</td>
<td>Crotty (1998)</td>
<td>Paradigms (Burrell &amp; Morgan, 1979; Jackson, 2000; Lincoln, Lynham, &amp; Guba, 2011; Midgley, 2000; Mingers &amp; Brocklesby, 1997)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Epistemology (Hesse-Biber &amp; Leavy, 2004)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Philosophical stance (Merriam, 2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Philosophy (Saunders, Lewis, &amp; Thornhill, 2009; Tashakkori &amp; Teddlie, 1998)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Interpretive frameworks (Creswell, 2013)</td>
</tr>
<tr>
<td>Corpus</td>
<td>A body or complete collection of writings on any subject</td>
<td>Social sciences, management sciences, natural sciences, humanities</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Research orientations (Tesch, 1990)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Research strategies (Denzin &amp; Lincoln, 2011; Saunders et al., 2009)</td>
</tr>
</tbody>
</table>
### Undertaking the research journey: a typology of approaches for complex systems research

#### Methods
Techniques or procedures used to achieve a given purpose (e.g. collate raw data, analyse data, intervene in a problematic situation)

| Baseline survey, problem structuring methods, interviews, participant observation, questionnaires, simulation models, statistical analysis |
| Blakie (2000) |
| Checkland (1981) |
| Crotty (1998) |
| Grix (2002) |
| Midgley (2000) |

#### Techniques
(Mingers & Brocklesby, 1997)

#### Ontological assumptions
Assumptions about the nature of reality and the way the world operates

| What is the form and nature of reality? What is existence? What is the nature of the universe? |
| Guba and Lincoln (2004) |
| Hesse-Biber and Leavy (2004) |
| Midgley (2000) |
| Mingers and Brocklesby (1997) |
| Saunders et al. (2009) |
| Staller (2013) |

#### Epistemological assumptions
Assumptions about the nature of knowledge itself, its possibility, scope, and general basis

| What can we know? Who can know? How can we know it? How do we go about knowing what is true and false? How can we be confident when we have located “truth”? How is knowledge created? |
| Hesse-Biber and Leavy (2004) |
| Midgley (2000) |
| Mingers and Brocklesby (1997) |
| Zhu (2011) |

#### Research philosophy
(Saunders et al., 2009)

#### Axiological assumptions
Assumptions about values and the role of values and ethics

| What is right or wrong? What is the impact of the researchers’ values on the research? Is every stakeholder treated with dignity and respect? What is considered ethical or moral behaviour? |
| Mertens (2007) |
| Saunders et al. (2009) |

Other concepts frequently used in complex systems research were deliberately not included in this table, and we attempt not to use them further in our discussion, except in specific authors’ quotes. One example in particular that illustrate the multiple interpretations and meanings that can be made of the same words is purposefully omitted in the rest of this paper: **paradigm**. “Paradigm” is often defined as a basic belief system or world view. As such, it could be mistaken with what we call here **epistemological assumptions**. But as highlighted earlier, paradigms are also often defined as particular combinations of assumptions (Mingers, 2003). So what we call here **philosophical assumptions** (which brings together ontological, epistemological and axiological assumptions) could actually be called **paradigms**. But as such, a research approach could also be seen as a **paradigm**, in the sense that it is a specific set of philosophical assumptions, as will be demonstrated in the typology presented in the following paragraphs of this paper. This shows the intricate links among these concepts.
It is therefore important to clarify not only the definition of those terms but also the links among them, as shown in Figure 1.1.

**Figure 1.1. Relationship among the key terms used in this paper**

In Figure 1.1, a few examples have been taken from the social and management sciences corpora as we consider that they are the main (but not only) corpora providing research approaches for complex systems research. This will be further discussed in the index presented in a later section. The list of research approaches, methods, and theoretical perspective is by no means exhaustive. This representation aims at clarification, at the risk of being reductionist. Although interpretivism, neo-positivism, post-modernism and other “-isms” are shown as ovals that can underlie all of the other corpora, research approaches and methods, we note that some approaches or methods tend to be more commonly employed under one particular theoretical perspective (e.g. grounded theory in interpretivism; specific types of questionnaires in positivism; some problem structuring methods in constructivism). Our description of relationships just provides a general frame of reference for researchers investigating their research positioning.

Figure 1.1 also shows that different methods can be mobilized by different research approaches which can themselves mobilize different theoretical perspectives. Some research approaches may have “preferred” methods (such as life history for narrative research for instance). However, all research approaches explored in this paper consent to mixed methods. It must be noted that some authors
from the multi-method/pluralism school disagree with this statement as they believe that a methodology is ultimately underpinned by a particular paradigm (Mingers, 1997), or, using our terminology, that a set of methods is ultimately underpinned by a particular research approach. Jackson (1991) established the belief in the management science community that methods, approaches and theoretical perspectives, in our terminology, align in neat relationships and cannot easily be realigned. In contrast, Midgley (2000) has argued that an individual’s research approach can continue to evolve over a lifetime, and that, at any one time, methods from multiple traditions can be interpreted through that approach. Alignments are therefore not objectively set in stone, but are interpreted through a pluralist perspective. We adopt this position, as underlined earlier.

In order to draw from plural approaches, it is however essential to ensure coherence among the philosophical assumptions underlying these approaches (Audouin et al., 2013). A typology classifying the main research approaches used in complex systems research against a number of key assumptions is necessary. The next section reviews existing categorizations of relevant research approaches. These categorizations are used as a basis to identify the approaches to be included in our typology.

1.4 Review of past categorizations of research approaches

Several categorization attempts for research approaches that are relevant to our investigations for complex systems research have already been undertaken. These are summarized in Table 1.2. References in Table 1.2 are just example and the table is by no means comprehensive.
Some authors compare the philosophical assumptions underlying various theoretical perspectives. These assessments compare theoretical perspectives rather than research approaches. For example, Jackson (2001) compares the functionalist, interpretive and emancipatory theoretical perspectives against eight assumptions including assumptions about the real-world, the preferred way to conduct analysis and the process of intervention. Yet, we believe that comparing research approaches may be more useful to early-career researchers as research approaches provide guidelines on how to carry out research rather than high-level theoretical discussions.

Other authors compare research approaches but against other criteria than their philosophical assumptions. For example, Jackson and Keys (1984) classify approaches against their assumptions about problem situations, These are defined through two dimensions: the nature of systems and the nature of the relationship among participants. Some of the assumptions may be useful for our comparison. However, most do not address underlying philosophical principles of the research approaches under scrutiny.

Authors in the mixed methods literature often compare methods against philosophical or other assumptions. For example, Midgley (2000), in his creative design of methods, classifies methods based

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**Table 1.2. Past categorizations of research approaches that are relevant to our investigations for complex systems research**

<table>
<thead>
<tr>
<th>Categorization of...</th>
<th>Philosophical assumptions (ontological, epistemological, axiological)</th>
<th>Key assumptions (other than philosophical)</th>
<th>Research process (research objective, data collection methods, data analysis techniques)</th>
</tr>
</thead>
</table>
on researchers’ (or agents in his terminology) purpose of intervention. These classifications are extremely useful to build our typology. They allow us to identify relevant research approaches and distinctive philosophical assumptions. Classifications and discussions on methods are useful for combining research approaches and methods in practice, as will be discussed in the conclusion.

1.5 **Index of existing complex systems research approaches and identification of relevant ones to be included in our typology**

Based on the references listed in Table 1.2, we can establish a list of existing research approaches which may guide complex systems researchers in designing their research approach. This list is by no means exhaustive. We include some of the research approaches hereby identified in our typology. This section explains how this selection was made. It is important, however, to emphasize that the typology presented in this article should be regarded primarily as a working model and an aid to research. Other research approaches could likely be added to the typology.

Most authors listed in Table 1.2 belong to two corpora: social sciences and management sciences. These are the two main corpora which have worked to inform complex systems research. Many interrelations and transversal paths exist among those two corpora. Indeed, many research approaches exist within social science and management science that are at the intersection between the two and that can be mobilized by researchers involved in complex systems research.

In the *social sciences* corpus, several authors have attempted to classify existing research approaches, as can be seen in Table 1.2 (Creswell, 2013; Patton, 2002). We will use in this paper the classification made by Creswell (2013) of five of the most common research approaches of social science: narrative research, phenomenology, ethnography, grounded theory and case study. His selection is based on the popularity of these approaches in the social science literature, consistent appearance in classifications over the years and approaches with systematic methods for research that are attractive to beginning researchers. *Narrative research* (Clandinin & Connelly, 2000) collects stories about individuals’ lived and told experiences. *Phenomenology* (Moustakas, 1994) focuses on describing the common meaning for several individuals of their lived experiences of a concept or phenomenon. *Ethnography* (Wolcott, 2008) focuses on developing complete descriptions of the beliefs, languages, behaviours and issues facing a group of people. Phenomenology, narrative research and ethnography do not aim primarily at transferring knowledge into action. They are not intrinsically “applied”. Some
of the methods employed by these approaches can be used punctually but they are not typically the most adapted approaches to guide applied complex systems research. We therefore choose not to integrate them in our typology. In contrast, grounded theory and case study, especially in their latest developments, have been used for a wide range of applications (e.g. Charmaz, 2011; Yin, 2011). Moreover, they are more commonly calling for mixed methods (Creswell, 2013). Grounded theory is the “discovery of theory from data systematically obtained from social research” (Glaser & Strauss, 1967, p.2). The constructivist revision of grounded theory (Corbin & Strauss, 2015) especially, endorses the researcher to engage in reflexivity and to enter the studied phenomenon. A case study is “an empirical inquiry that investigates a contemporary phenomenon in depth and within its real life context” (Yin, 2009, p.18). To complete this comparison, two research approaches are added that are relevant to complex systems work theory and practice: feminism and participatory research. “Participatory research focuses on a process of sequential reflection and action, earned out with and by local people rather than on them. Local knowledge and perspectives are not only acknowledged but form the basis for research and planning” (Cornwall & Jewkes, 1995, p.1667). Stephens (2013) has developed a feminist systems approach that explicitly embraces intervention and methodological pluralism. It advocates gender awareness, but not as an exclusive focus. It is therefore relevant to our typology. Hence, four social science approaches remain which most fully embrace our criteria and will potentially be able to guide complex systems researchers: grounded theory, case study, participatory research and feminism.

On the management sciences side, one of the most recent and complete classifications of research approaches is the one made by Jackson (2000). He classifies 33 research approaches according to four common social science paradigms: functionalist, interpretive, emancipatory and postmodern. He also classifies these approaches according to their philosophical assumptions (Jackson, 2001). Comparing these 33 research approaches using our typology would certainly be of interest to many researchers who need guidance to navigate the array of management science approaches. For this paper however, in order to remain concise, we chose instead to compare three broader management science approaches based on David (2000) and Rossi et al. (1999): action research, intervention research and evaluation research. These three approaches can be seen as encompassing several of the approaches listed by Jackson (David, 2000). In addition, they are listed as relevant approaches in several social science categorizations (e.g. Denzin & Lincoln, 2011). Action research is a process in which “the researcher enters a real-world situation and aims both to improve it and to acquire knowledge” (Checkland & Holwell, 1998, p.9). Intervention research is research on “a constitutive mechanism by which a conscious attempt is made to modify organizational phenomena according to some pre-
established concepts or models” (Hatchuel & Molet, 1986, p.179). Taken in these definitions, two main differences can be highlighted between action and intervention research. Firstly, intervention research places much importance on models, concepts, hypotheses/“rational myths” that researchers bring to the field while in action research, these are not prerequisites of the approach, and knowledge and research questions can emerge from the field (Daniell, 2012; Hatchuel & Molet, 1986). Secondly, action research aims more at preparing a group for change but not at actually accompanying the transformation and collective action (David, 2000). A third relevant research approach is evaluation research (as defined by Rossi et al., 1999). Evaluation research is the systematic application of social research procedures for assessing the conceptualization, design, implementation, and utility of social intervention programs (Rossi et al., 1999). Compared to action and intervention research, evaluation research has a more focused unit of analysis (programs or projects) and purpose (assessing the performance and effectiveness of programs). In addition, it is intended to improve future similar programs or as an incremental contribution to a cumulative body of practical knowledge (Rossi et al., 1999). Results of the research are not necessarily destined to be turned immediately into action, but can be used for longer-term learning and knowledge-building.

We have now identified seven research approaches that we see to be particularly relevant to complex systems research designs: case study (Yin, 2009), grounded theory (Corbin & Strauss, 2015), participatory research (Cornwall & Jewkes, 1995) and feminism (Stephens, 2013) in the social sciences and action research (Checkland & Holwell, 1998), intervention research (David, 2000; Hatchuel & Molet, 1986) and evaluation research (Rossi et al., 1999) in the management sciences. It must be noted that the research approaches presented here are the ones developed by one specific author, or group of authors. Many other authors have developed variations around these approaches. However, we purposefully selected writings which were frequently used and considered as “references” among complex systems researchers. Nevertheless, we encourage researchers wishing to look at other research approaches to apply the typology to those, based on the example provided later on. The next part of this paper identifies six key assumptions that allow the relevance and compatibility of these seven research approaches to be highlighted.

1.6 Towards a typology of complex systems research approaches

By reviewing in depth the foundational principles of the seven research approaches, six key assumptions were discerned that differed from one research approach to another. Various options
were ascribed to these key assumptions. These options are meant to be exhaustive but not mutually exclusive. If they were, mobilization of two or more research approaches with only one differing philosophical assumption would be fundamentally impossible. Definitions of these six key assumptions, along with their respective options or commonly apparent orientations, are presented in Table 1.3.

**Table 1.3. Definitions of the six key assumptions and their respective options**

<table>
<thead>
<tr>
<th>KEY ASSUMPTION</th>
<th>DEFINITION</th>
<th>MAIN RESEARCHER OPTIONS</th>
</tr>
</thead>
</table>
| **Vision of the involvement of the researcher in the field** | Involvement of the researcher in the field (level of engagement) is common to all the research approaches investigated. The question here is how this involvement is regarded within the research approach. | Involvement of the researcher in the field is:  
  - **OPPORTUNITY & THREAT**: is an opportunity but can also produce bias, trade-offs need to be considered.  
  - **BASIC PRINCIPLE**: is the basic principle of the research, it must be anticipated and negotiated with the stakeholders.  
  - **NECESSARY PERTURBATION**: creates perturbations that allows generating new knowledge that could not be developed otherwise. |
| **Research aim**                       | Transferring knowledge into action (i.e. “applied”) is common to all the research approaches investigated. The question here is whether this is the ultimate aim, purpose or core logic of the research. | The research aims at:  
  - **DESCRIPTIVE**: developing an in-depth understanding and description of the case.  
  - **THEORY-KNOWLEDGE**: creating theoretical constructs.  
  - **INTERVENTION – ACTION**: fostering change and action. |
| **Prior investigation**               | Whether existing theory and literature should be investigated before going to the field or not. | Looking at existing literature and theories before entering the field is:  
  - **UNDESIRABLE**: will shape researchers’ preconceptions which could lead to specific biases in their observations and theories.  
  - **DESIRABLE**: can guide the research design, provide knowledge about the field and let researchers know what to expect.  
  - **NECESSARY**: a precondition to entering the field. Without it, the research lacks its fundamental basis. |
| **Data-theory dynamic**               | The way theory relates to the data and the field. |  
  - **GROUNDED OR EMERGENT THEORY**: Theory is situated in the data and needs to be discovered (through pattern-matching or constant back-and-forth travelling between the data/field and the theory).  
  - **MODEL-DRIVEN THEORY DEVELOPMENT**: Theory is developed by postulating and refuting theories and identifying theoretical gaps for further investigation. |
| **Generalization**                    | The extent of generalization, transfer or replication that the research targets. | The results of the research:  
  - **DECONTEXTUALIZED GENERALIZATIONS**: can be generalized to any unit of analysis.  
  - **CONTEXTUALIZED GENERALIZATIONS**: can be generalized to units of analysis in similar conditions.  
  - **NO GENERALIZATIONS**: are applicable only to the unit of analysis under study. |
| **Modifications “on the way”**        | The possibility of modifying the research design (data collection methods, data analysis techniques, etc.) in the course of the research process. | Modifications of the research design is:  
  - **UNDESIRABLE**: should be avoided when possible, and the problems it creates need to be limited (e.g. lack of consistency through process).  
  - **DESIRABLE**: Researchers must be flexible: they must anticipate potential changes in their unit of analysis and, when these happen, modify their research designs accordingly.  
  - **NECESSARY**: Researchers must innovate and improvise, this is the only way to contribute to furthering methodological development in complex systems research. |
Table 1.4 classifies the seven research approaches identified earlier related to these six key assumptions.

**Table 1.4. A typology of research approaches for complex systems research**

<table>
<thead>
<tr>
<th>Vision of the involvement of the researcher in the field</th>
<th>Case study</th>
<th>Grounded theory</th>
<th>Participatory research</th>
<th>Feminism</th>
<th>Action research</th>
<th>Intervention research</th>
<th>Evaluation research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunity and threat</td>
<td>Basic principle</td>
<td>Basic principle</td>
<td>Necessary perturbation</td>
<td>Basic principle</td>
<td>Necessary perturbation</td>
<td>Necessary perturbation</td>
<td>Necessary perturbation</td>
</tr>
<tr>
<td>Research aim°¹</td>
<td>Descriptive (theory-knowledge)</td>
<td>Theory-knowledge</td>
<td>Intervention-action (theory-knowledge)</td>
<td>Intervention-action</td>
<td>Intervention-action</td>
<td>Theory-knowledge (intervention-action)</td>
<td></td>
</tr>
<tr>
<td>Prior investigation</td>
<td>Desirable</td>
<td>Undesirable</td>
<td>Desirable</td>
<td>Desirable</td>
<td>Desirable</td>
<td>Desirable</td>
<td>Desirable</td>
</tr>
<tr>
<td>Data-theory dynamic</td>
<td>Grounded - emergent</td>
<td>Grounded - emergent</td>
<td>Either</td>
<td>Grounded - emergent</td>
<td>Grounded - emergent</td>
<td>Theory development</td>
<td>Non specified</td>
</tr>
<tr>
<td>Generalization</td>
<td>Decontextualized generalizations</td>
<td>Contextualized generalization</td>
<td>Dependent on aim, can be any</td>
<td>No generalization</td>
<td>Contextualized generalization</td>
<td>Dependent on type of theory being investigated</td>
<td>Contextualized generalization</td>
</tr>
<tr>
<td>Modifications “on the way”</td>
<td>Desirable</td>
<td>Necessary</td>
<td>Necessary</td>
<td>Necessary</td>
<td>Desirable</td>
<td>Necessary</td>
<td>Necessary</td>
</tr>
</tbody>
</table>

In the following section we seek to show how this typology can be employed to support researchers to undertake the research journey, that is to position their research in the range of research approaches.

°¹ In the “research aim” line what is in brackets is the common secondary aim.
1.7 Example of the use of the typology for situating a doctoral research project

To demonstrate the potential use of this typology, we will use the example of the first author’s doctoral research. Ultimately, this example should drive further discussion on the relevance and compatibility of the seven research approaches under study.

Let us first investigate whether the doctoral research example fits in the complex systems research situation described in the introduction of this paper. The research is embedded in a European funded research project called AfroMaison (2010), which aims at bringing the concept of Integrated Natural Resource Management (INRM) into practice by developing an INRM toolbox (AfroMaison, 2010). Part of the project is dedicated to the implementation of participatory planning processes in the Rwenzori region in Uganda and the Fogera district in Ethiopia (see sections 7.3 and 7.4). The AfroMaison researchers’ intervention aims at supporting the participatory planning process by guiding stakeholders through the planning phase, but also at creating the conditions for these stakeholders to be able to implement the plan and to sustainably manage natural resources at their scale. The aim of the doctoral research within this broader context is to assess to what extent a participatory planning process, like the ones under study, leads to institutional and organizational change at the meso scale related to natural resource management. The research is therefore both engaged and applied, since the researcher (the first author) is engaged in her object of study and the results of the research are meant to be implemented in the field as key learning for implementing future similar processes. Having a social-ecological system as an object of research definitely places it in the broader frame of complex systems research.

In order to track changes brought by the process, a research approach was developed and implemented. It consisted in a sequence of six steps: 1. Description of the case, 2. Clarification of the research viewpoint(s) and definition of the research objective(s), 3. Identification of the context, process and outputs/outcomes analytical variables 4. Development of the methods and data collection, 5. Data analysis and 6. Sharing of the research results. These phases were not implemented in a chronological order but in an iterative manner in order to be able capture “surprises”, or innovative forms of action that may emerge from the process (Hatchuel, 2005). A detailed description of the research approach has been provided elsewhere (see chapters 3 and 4).
The research employed mixed methods including a “logbook” (Etienne, 2011) recording all interventions, interactions and events taking place in the area. Each participatory workshop was monitored using attendance lists, participants’ expectations, pictures and videos, participant observation and questionnaires. Interviews were undertaken by researchers at various stages of the process. Interviewees were process facilitators, participants and non-participants. Selection of interviewees within these groups was made using purposive and snowball sampling techniques. The research therefore mobilized predominantly qualitative data which was complemented by quantitative data on the process (number of participants attending workshops, their gender, geographical origin and socio-professional category). The data collected with these methods was transcribed by researchers immediately after collection. Transcripts were qualitatively analysed to identify the presence of the variables, or codes, listed in the preliminary framework. All the data which did not correspond to any of these variables was assigned a new code, corresponding to “surprises”. Coding was therefore made following both an inductive and a deductive process (Fereday & Muir-Cochrane, 2006). Data collected through attendance lists, expectations, and Likert scale items in the questionnaires was analysed quantitatively. For a detailed description of the M&E methods used, see section 4.4.4.

Having demonstrated that the doctoral research indeed fits the description in the introduction of complex systems research, a closer analysis of the key assumptions underlying this research is shown in Table 1.5.
Undertaking the research journey: a typology of approaches for complex systems research

Table 1.5. Application of the typology to a specific doctoral research project

<table>
<thead>
<tr>
<th>PHILOSOPHICAL ASSUMPTIONS</th>
<th>ATTRIBUTE ALLOCATED TO THE RESEARCH</th>
<th>EXPLANATION OF THE ATTRIBUTE ALLOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision of the involvement of the researcher in the field</td>
<td>NECESSARY PERTURBATION</td>
<td>Since the research is taking place in the frame of a research project, researchers in this case have an operational role within the project: their intervention (including that of the doctoral researcher) aims at supporting and guiding the participatory planning process. Researchers are themselves considered as experts and provide inputs into the process, therefore generating changes and new knowledge. In that sense, their involvement is a necessary perturbation.</td>
</tr>
<tr>
<td>Research aim</td>
<td>THEORY-KNOWLEDGE (INTERVENTION – ACTION)</td>
<td>As a research project, the primary aim of the research is inherently theory and knowledge. However, the results of the research are meant to be used as key learnings for implementing future similar processes. Therefore, intervention-action is a secondary aim.</td>
</tr>
<tr>
<td>Prior investigation</td>
<td>DESIRABLE</td>
<td>Before entering the field, a theoretical framework based on existing literature and theories was developed that was used as the basis for the choice and conception of the methods. This theoretical framework was partly based on the operational framework proposed in the frame of the AfroMaison project (Ferrand &amp; Daniell, 2006; Ferrand, 2004 summarized in Daniell, 2012, p.65-66).</td>
</tr>
<tr>
<td>Data-theory dynamic</td>
<td>GROUNDED OR EMERGENT THEORY</td>
<td>Theory and knowledge is an “ongoing construction” in the course of the process. Theory is drafted while data is being collected, feedback is provided to stakeholders which might change their courses of action: it is a dynamic of oscillation between data, action and reflection.</td>
</tr>
<tr>
<td>Generalization</td>
<td>CONTEXTUALIZED GENERALIZATIONS</td>
<td>The research aims at providing insights that could be used by any participatory planning process on natural resource management linked to potential institutional and organizational changes. It is highly sensitive to contextual variables that might influence the process and its results and even provides a framework for analysing contexts of participatory planning processes. Generalizations are therefore contextualized.</td>
</tr>
<tr>
<td>Modifications “on the way”</td>
<td>NECESSARY</td>
<td>Some of the obstacles in monitoring certain variables, as well as the requirement to conduct field work and research in parallel led the doctoral researcher (and other AfroMaison researchers) to realize during the process that some methods were unnecessary, incomplete or poorly designed. Some changes of the methods, considered as necessary to adapt to changing circumstances, were made “on the way”.</td>
</tr>
</tbody>
</table>

Looking at the attributes allocated to the research in Table 1.5, evaluation research seems relevant for our research since it is based on similar philosophical assumptions. Intervention research, feminism and participatory research are also relevant. They may guide the researcher as to which methods to use, how to consider her position in the field and how the involvement of other stakeholders creates constraints and opportunities on research design decision making.

1.8 Discussion and conclusion

It is important to re-emphasize that the typology presented in this article should be regarded primarily as a working model and an aid to research. There are certainly limitations to the typology and other elements could likely be added. For example, other key assumptions could be taken into account and other research approaches, such as operational research, emancipatory research and system
dynamics, may be relevant. Similarly, the body of work on methodology and philosophy of science is so wide that additional references and insights could always be added. For example, Dewitt (2010), Hollis (2003) and Papineau (2003) are insightful guides to the literature on the history and philosophy of science. However, for a purpose of concision, we deliberately kept our argument and references concise.

Another major limitation is related to the mixing of research approaches and methods in practice. The typology helps researchers to identify relevant research approaches bearing similar assumptions to their own but it does not explain how to mix these approaches and methods in practice. For this, we suggest researchers refer to the systems thinking and operational research literature which, given a focus on methods for intervention, is a very appropriate body of work to draw upon. Various views have been developed as to how to mix approaches and methods in practice. These include *mixed methods, multimethodology, methodological complementarism* and *methodological pluralism* (e.g. Bowers, 2014). There are some subtle philosophical issues underlying the choice of the approach which relate to the paradigm debates presented earlier. For instance, *mixed methods* fits with Midgley’s (2000) view that researchers mix methods that are drawn from other theoretical perspectives but reinterpreted in terms of the researcher’s own evolving approach. In contrast, *multimethodology* implies that it is possible to mix research approaches, and their contradictory underlying assumptions, rather than just methods (Midgley, 2000). These views have led to the development of specific “guidelines for practice” such as Jackson and Keys’s *system of systems methodologies* (1984) and subsequent *total system intervention* (Flood & Jackson, 1991) and *critical system practice* (Jackson, 2001). Others include Midgley’s (2000) *creative design of methods*, Flood and Romm’s (1996) *oblique use of methods*, Gregory’s (1996) *discordant pluralism*, Mingers’ (1997) *critical pluralism* or Taket and White’s (1996) *pragmatic pluralism*. The objective here is not to provide a full account of these debates. Since we adopted Midgley’s position on the paradigm debate, we suggest the use of the creative design of methods, provided that researchers have preliminarily checked the coherence of their own approach through the use of the typology.

Hence, despite these limitations, even the typology in its current form is of value, as demonstrated through the concrete example in the previous section. It can help complex systems researchers, especially those beginning their research career, to undertake the research journey with more confidence. Specifically, it guides them to:

- Develop reflexivity and clarify the key assumptions underlying their research,
- Check the coherence of these assumptions, and
• Situate their research in the array of existing research approaches to identify which approaches bear similar or contradictory philosophical assumptions to their own, thus hopefully helping them undertake more informed reading and use of the literature.

Here we discuss and conclude briefly on the additional value this typology provides in investigating the coherence of research approaches and issues of reflexivity and transparency in complex systems research.

1.8.1 Coherence

When looking at the typology, it becomes clear that some couples of key assumptions are undesirable, as illustrated in Table 1.6. We employ here purposefully the word “desirable” since those couples are not necessarily totally incompatible.

Table 1.6. Undesirable couples of assumptions

<table>
<thead>
<tr>
<th>COPULSES OF ASSUMPTIONS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vision of the involvement of the researcher in the field</strong></td>
<td><strong>Research aim</strong></td>
</tr>
<tr>
<td>UNDESIRABLE</td>
<td>INTERVENTION AND ACTION</td>
</tr>
<tr>
<td><strong>Data-theory dynamic</strong></td>
<td><strong>Prior investigation</strong></td>
</tr>
<tr>
<td>MODEL-DRIVEN THEORY DEVELOPMENT</td>
<td>UNDESIRABLE</td>
</tr>
<tr>
<td><strong>Modifications on the way</strong></td>
<td><strong>Data-theory dynamic</strong></td>
</tr>
<tr>
<td>UNDESIRABLE</td>
<td>GROUNDED OR EMERGENT THEORY</td>
</tr>
<tr>
<td><strong>Research aim</strong></td>
<td><strong>Generalization</strong></td>
</tr>
<tr>
<td>DESCRIPTIVE INTERVENTION – ACTION</td>
<td>DECONTEXTUALIZED GENERALIZATIONS CONTEXTUALIZED GENERALIZATIONS</td>
</tr>
<tr>
<td><strong>Data-theory dynamic</strong></td>
<td><strong>Prior investigation</strong></td>
</tr>
<tr>
<td>GROUNDED OR EMERGENT THEORY</td>
<td>UNDESIRABLE</td>
</tr>
<tr>
<td><strong>Prior investigation</strong></td>
<td><strong>Data-theory dynamic</strong></td>
</tr>
<tr>
<td>DESIRABLE NECESSARY</td>
<td>MODEL-DRIVEN THEORY DEVELOPMENT</td>
</tr>
<tr>
<td><strong>Care must be paid when drawing on two approaches bearing these contradictory assumptions (e.g. extended case method and action research)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Care must be paid when drawing on two approaches bearing these contradictory assumptions (e.g. grounded theory and participatory research)</strong></td>
<td></td>
</tr>
</tbody>
</table>
Table 1.6 helps researchers to check the coherence of the key assumptions underlying their research and raises their attention on the fact that care must be paid when drawing on two or more approaches bearing contradictory assumptions. Concerning the example provided in the previous section, the researcher can be comforted that their research position appears coherent and that none of the three approaches drawn on bear contradictory assumptions.

1.8.2 Reflexivity and transparency

The second added-value of this typology is to provide concrete guidelines for researchers to clarify their own research-related assumptions and make their research practice clearer for themselves and others. Early transparency is extremely useful, especially in the case of multidisciplinary collaborations with other researchers, practitioners or decision makers. It allows researchers to understand the concrete assumptions which may cause misunderstanding with others and therefore to defend their positions and research with more confidence (Midgley, 2000).

Finally, if this typology is of use for researchers new to complex systems research, it is the role of these researchers to engage practitioners in reflection-in-action and to help them reflect on their own philosophical assumptions-in-use (Schön, 1983). We believe this would provide a great step in reducing the theory-practice gap and in improving related collaborations for the development of more effective and original complex systems research. Overall, this typology contributes to equipping complex systems researchers to undertake the research journey, individually or in teams.
Chapter 2 • Towards understanding participatory processes: framework, application and results

Abstract

Many scholars point out that in complex and contested decision-making and planning situations, participatory processes have clear advantages over “traditional” or non-participatory processes. Improving our understanding of which participatory process elements or combination of elements contribute to specific outcomes demands a comparative diagnosis of multiple case studies based on a systematic framework. This paper describes the theoretical foundation and application of a diagnostic framework developed for the description and comparative analysis of participatory processes. The framework for the Comparison of Participatory Processes (COPP) is composed of three dimensions: context, process, and outputs outcomes and impacts. For each dimension, a list of variables is provided, with associated selectable options. The framework also requires clarification of three monitoring and evaluation elements. The COPP framework is then applied to five participatory processes across five different contexts: three located in the Mekong basin in Southeast Asia and two in eastern Africa. The goal is to test first if the framework facilitates the development of a comprehensive and clear description of participatory processes, and second, if a diagnostic step can be facilitated by applying the descriptions in a cross-comparative analysis. The paper concludes that despite a few challenges, the COPP framework is sufficiently generic to derive clear and consistent descriptions. A sample of only five case studies restricts the derivation of robust insights. Nevertheless, three testable hypothesis were derived, which would need to be tested with a much larger sample of case studies in order to substantiate the efficacy of process characteristics and attributes. Ultimately, such hypotheses and subsequent analytical efforts would contribute to the advancement of this increasingly prominent research domain.

Key words

Comparative analysis; impacts; monitoring and evaluation; outcomes; outputs; participation
Towards understanding participatory processes: framework, application and results

2.1 Introduction

Many scholars point out that in complex and contested decision-making and planning situations participatory processes have clear advantages over “traditional” processes. Participation may be defined as the practice of consulting and involving relevant stakeholders in the agenda-setting, decision-making, and policy-forming activities [or processes] of organizations or institutions responsible for policy development (Rowe & Frewer, 2004). Stakeholders, according to Glicken (2000), are people or organizations either affected by the management process or who can affect it. Participation can vary depending on how many steps of the process are influenced or fully in the hands of stakeholders (Barreteau et al., 2010; Smajgl & Ward, 2013). We refer to traditional processes as those where stakeholder participation is not explicitly designed and facilitated. Traditional or non-participatory processes face great challenges generating impact in situations where complex problems meet vested interests. Participatory processes have at least three advantages to establish an effective science-policy interface (Barreteau et al., 2010; Smajgl & Ward, 2013). First, local contextual knowledge can be accompanied with system-focused scientific knowledge and methodology to overcome the cognitive processing of complexity-based challenges. Second, during the participatory process, actual decision makers, planners, or community members can directly experience a systems’ understanding that is understood through praxis and can therefore be readily translated into improved actions and decisions. Third, participants are more likely to apply the new systems’ understanding in the long term, beyond the temporal and planning targets of the initial participatory processes. Participation can facilitate system learning and thereby “implant” a foundational understanding, tailored to solve similar long term contested decision arenas.

Improving our understanding of which participatory process elements or combination of elements contribute to specific outcomes demands a comparative diagnosis of multiple case studies (Chess, 2000). A systematic framework that structures a consistent and coherent description of participatory processes across a diverse set of empirical situations is a necessary precursor to analytical comparisons.

This paper describes the theoretical foundation and application of a diagnostic framework developed for the description and comparative analysis of participatory processes. The framework is intended to be sufficiently generic to allow for the comparison of a diverse set of case studies and ultimately a diagnostic analysis. The proposed framework is not intended as a device to conduct a detailed analysis of specific cases. We assume that much can be learned from the comparison across a larger number
Towards understanding participatory processes: framework, application and results

of diverse cases. Ultimately, the purpose of this cross-comparison is to analyse the effectiveness of participatory processes and their elements. This does not undermine the need for in-depth analysis of specific cases, which is both necessary and essential when studying participatory processes. Both approaches are complementary.

The framework is intended to be informed by any stakeholder or group of stakeholders having sufficient insights on the participatory process of interest to be able to inform the variables. Variables are defined here as elements or criteria used to describe participatory processes. For each variable, informants can choose among a list of different “options” or values. Informants will preferably be stakeholders involved in the process, its design, implementation and/or evaluation. Identity of the informant is to be taken into account in any analysis or cross-comparison of results.

Section 2.2 describes the development of the framework for the Comparison of Participatory Processes (COPP). Section 2.3 highlights three monitoring and evaluation (M&E) elements requiring clarification when informing the framework. Section 2.4 details a COPP framework analysis of five case studies across Asia and Africa. Finally, we analyse the cross-comparative results and evaluate the COPP framework performance. The synthesized COPP framework, presented as a “ready-to-use” assessment template, is detailed in Annex 2.1.

2.2 Framework for describing, diagnosing and comparing participatory processes

The framework for the Comparison of Participatory Processes (COPP) is composed of three dimensions, synthesized from literature based insights. The proposed COPP dimensions represent four literature-derived cohorts of theorists and practitioners contributing to the corpus of scholarship. The first cohort represents scholars who identify variables related to the management of coupled social-environmental systems and institutions (e.g. Folke, Hahn, Olsson, & Norberg, 2005; Herrfahrtd-Pähle & Pahl-Wostl, 2012; Ostrom, 2005; Saleth, 2006; Scott, 2001). The second cohort includes documentation of scholars from the field of policy-making, governance and policy assessment (e.g. Dovers & Hussey, 2013; Dovers, 2003; Lankford, 2008; Sabatier, 1988) that focus on the decision-making process, its institutionalization and assessment. Even readers interested in participatory processes with foci other than social, environmental and policy design will find valuable insights in the literature of these two cohorts. A third cohort draws from management science and is concerned with
evaluation in general, and more specifically the evaluation of collaborative endeavours (e.g. Bellamy et al., 2001; Byrne, 2013; Conley & Moote, 2003; Couix, 1997; William, 2007). Authors in this cohort are focused on evaluation methods, principles and guidelines. Finally, the most abundant reviewed literature concerns public participation, in particular the evaluation of public participation processes and methods (e.g. Beierle & Cayford, 2002; Innes & Booher, 1999; Rowe & Frewer, 2000, 2004). The added-value of these different cohorts for the COPP framework is described in sections 2.2 and 2.3 of this paper.

This paper considers only publications with explicit variables that can contribute to the assessment of participatory processes. Most existing approaches and variables were developed to describe or assess a specific participatory process, not necessarily to compare a diverse set of processes. The review of existing frameworks reveals that many variables are similar, flagging the potential of a generalizable assessment framework.

We describe in detail the three assessment dimensions of the COPP framework: context, process attributes, and outputs, outcomes and impacts. One perspective reliant on framework parsimony might limit assessment to process characteristics and outputs and outcomes. However, many authors suggest that contextual aspects are critical for understanding outcomes (e.g. Beierle & Cayford, 2002; Cleaver & Franks, 2005; Midgley et al., 2013; Ostrom, 2005; Sabatier, 1988). We also contend that a clear articulation of standardized monitoring and evaluation (M&E) objectives, team composition and methods are necessary to promote independent replication and validation.

A number of participatory processes evaluation frameworks exist with similar goals (e.g. Abelson et al., 2003; Rosener, 1981; Rowe & Frewer, 2000). Often, these frameworks focus on the process and/or its outcomes, without detailing the context dimension or the M&E. For example, Krywkow (2009) suggests an approach based on six “intensity criteria” to evaluate to what extent various participatory processes objectives have been reached. He assumes that the M&E objective is to evaluate the effectiveness of the participatory process in reaching its objectives. We argue for a broader diversity of M&E objectives, which may differ from process objectives. For example, the goal of the participatory process may be to develop a policy, while the M&E may aim to jointly assess whether the process also contributed to building the capacity of the stakeholders in implementing this policy. In other cases, proposed frameworks may be method-oriented (e.g. Midgley et al., 2013) or discipline-specific (e.g. Ostrom, 2005). The COPP framework aims at being used across participatory processes characterized by diverse contexts, M&E objectives, methods and disciplines.
2.2.1 The context dimension

The implementation of a specific participatory process method can lead to different outcomes due to differences in contextual circumstances (Buysse, Wesley, & Skinner, 1999; Champion & Wilson, 2010; Checkland & Scholes, 1990; McAllister, 1999; McGurk, Sinclair, & Diduck, 2006; Morgan, 2001; Murphy-Berman, Schnoes, & Chambers, 2000; Rowe & Frewer, 2000, 2004; Warburton, Wilson, & Rainbow, 2007; White, 2006; cited in Midgley et al., 2013). This can be due to particular methods not being effective across all contexts or due to particular process steps triggering different dynamics. The same method utilized by the same practitioner or researcher can succeed or fail depending on the complexities and dynamics of the situation. Most scholars recognize the importance of the context by advocating for context-specific process designs. Some aggregate contextual drivers, for instance as the “influence of the external environment” (Champion & Wilson, 2010). Few, however, list formalized contextual variables.

Indeed, there is a wide range of contextual factors with the potential to affect participatory processes and their outcomes. Identifying influencing factors a priori can be difficult. Nevertheless, our aim here is not analytical but comparative. Thus, key context variables are needed to distinguish contexts into broad categories. We include five variables that come with empirical evidence to confirm their relevance. The options associated with these five variables are listed in Annex 2.1.

The first variable of the context dimension of the COPP framework is the “target system elements”. Even though this variable is not explicitly listed in the literature, we argue that it allows for an important categorization and a deeper understanding of the system elements which the process aims to target. Target system elements can be natural or environmental, such as water and forests, economic, social, political, urban, health, technological and/or educational.

Many scholars identify “levels of governance influencing target system elements” as a critical variable, using different terms but with similar meanings: “shared jurisdiction” (Beierle & Konisky, 2000) or “scale of issue” (Perez et al., 2011). This variable is defined by the level of decision making influencing the target system. For instance, individually managed wells may only be influenced by decisions taken at the village level. We apply the terminology used for multi-level approaches to delineate the three options for this variable: macro (national or larger), meso (subnational) and/or micro (village or group of villages).
The third variable refers to “other past/present intervention attempts” to distinguish contexts in which many initiatives have been implemented already from other situations where only a few or even no other initiatives have been implemented (Burton et al., 2006; Champion & Wilson, 2010; Midgley et al., 2013; Ostrom, 2005).

The majority of scholars working on participatory processes identify the relevance of “pre-existing relationships among participants” as a critical variable. Allison and Hobbs (2006), Bellamy et al. (2001), Chess and Purcell (1999) and Cumming (2000) refer to the social context broadly and Foley, Daniell, and Warner (2003) refer to social "natural resources". Others more specifically mention variables linked to conflict and mistrust as hindering contextual effects for participatory processes (Beierle & Cayford, 2002; Beierle & Konisky, 2000; Bellamy et al., 2001; Branch & Bradbury, 2006; Brocklesby, 2009; Jackson & Keys, 1984; Kelly & Van Vlaenderen, 1995; Ong, 2000; Ostrom, 2005; Perez et al., 2011; Webler & Tuler, 2002). The COPP frameworks adopts the options suggested by Beierle and Cayford (2002) to describe the pre-existing relationships among participants: no pre-existing relationship, high degree of mistrust and conflict, moderate trust and conflict or good pre-existing relationships and trust.

Finally, the fifth variable refers to “participants’ understanding of target system elements”. Scholarly examination across diverse disciplines and fields of inquiry have led to the distinction between two aspects of knowledge: facts, considered as a local and scientific knowledge system, and values, or the moral and ethical values and norms that condition how facts are perceived, in the tradition of Brown (1984) and More et al. (1996). Participants’ understanding of the target system elements, participants’ perception of their own knowledge about the system, and the degree of acceptance assume a central role in the majority of reviewed participatory process case studies. Consistent with the COPP principles of standardization and tractability, this variable has been synthesized into two detectable attributes which distinguish whether participants state they understand, or not, target system elements.

2.2.2 The participatory process dimension

Methodological and procedural choices constitute the core of our comparative diagnostic. Which methods were used? How were the participants selected? Who instigated the process? Many of those questions, however, often remain hidden in descriptions and assessments of participatory processes. Detailing the way the process is translated from abstract to praxis is essential in describing and
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Comparing cases. When combined with enabling and constraining contextual factors, comparisons can reveal either principle patterns or procedural or methodological choices that lead to outcomes more aligned with target objectives.

Fourteen variables were identified as relevant for the process dimension. They were drawn predominantly from the major steps to be considered when designing a participatory process and from the main elements considered in in-depth descriptions of specific processes. The options associated with these fourteen variables are listed in Annex 2.1.

The first variable is the “participatory process objectives” which was identified by many authors including Beierle and Cayford (2002), Beierle and Konisky (2000), Bellamy et al. (2001), Lynam, De Jong, Sheil, Kusumanto, and Evans (2007), Ostrom (2009) and Tippett, Handley, and Ravetz (2007). The combination of the options suggested in these frameworks as well as the experience of the authors on participatory processes allowed the identification of four main options for this variable: exploring decision-making options, improving stakeholders’ systems understanding, resolving or avoiding conflicts and gathering knowledge. We acknowledge that the complexity of participatory processes often involves a multiplicity of contested and evolving process objectives. We understand here “participatory process objectives” as the “official” or “stated” objectives of the process once framing discussions and trade-offs have taken place among participants. The multiplicity of objectives is reflected in the possibility to select multiple options for this variable.

The “instigator(s) of the process” is explicitly or implicitly mentioned by several authors including Beierle and Konisky (2000), Chess and Purcell (1999) and Warner (1997). Instigators of the process include stakeholders who first triggered the process, who had the idea and mobilized other stakeholders. They can be: donor or development agency representatives, researchers, decision makers or governmental stakeholders, civil society and/or private sector representatives. These options are based on Beierle and Cayford (2002), Michener (1998) and Okali et al. (1994).

The third variable “team” concerns the stakeholders who are designing, implementing and facilitating the participatory process. This variable is generally not explicitly listed in other work. However, description of the composition of the team leading the participatory process is typically provided in case descriptions. The same options were applied as the “instigator(s) of the process” variable.
Similarly, the origin of the team, in terms of place and professional background, impacts their expectations towards the participatory process and is often linked to the success of the process (e.g. Chess & Purcell, 1999; Daniell, 2012; Godschalk & Stiftel., 1981; Renn, Weblert, & Wiedemann, 1995). Team members can come from the area and/or affect or be affected by target system elements, for example if they are decision makers with a mandate in the area of concern. They can also be external to the area, for example in the case of international researchers or non-governmental organizations.

The “selection of the participants” is frequently introduced in participatory processes evaluation frameworks as the “representativeness” of participants (e.g. Berry, Portney, Bablich, & Mahoney, 1984; Crosby, Kelly, & Schaefer, 1986; Petts, 1995, 2001; Rowe & Frewer, 2000; Rowe, Marsh, & Frewer, 2004). However, we prefer “selection of the participants” for two reasons: first, the process under consideration may not aim at selecting participants who are representative of the broader population and two, even if it does, in order to be able to infer results to the broader population, representativeness needs to be rigorous and defensible. This variable corresponds to the stakeholders who made the ultimate choice of who would be invited to participate in the process and actively sent the invitations. It can be the team or a third party, the donor or government for instance. The selection of options for the “selection of the participants” variable is adapted from Fung (2003, 2006).

The “size of the group” is identified as a criteria by several authors working on group cohesion, group performance and small group theory (e.g. Annese & Traetta, 2012; Carron & Spink, 1995; Indik, 1965; Mullen, Johnson, & Drake, 1987; Slater, 1958; Thomas & Fink, 1963). Therefore we decided to include it in the COPP framework. The “group” is defined here as all participants involved in the process, excluding the team.

The work of Fung (2003, 2006) was used as a basis for the seventh variable “level of participants’ process expectations” to which we added the notion of confidence in the process outlined by Beierle and Konisky (2000) (drawn from Gurtner-Zimmermann, 1996; Landre & Knuth, 1993). Options are defined as “high” when participants believe that the process can really change the target system or as “low” otherwise.

Many scholars consider the engagement of specific governance levels: lead agency (Beierle & Konisky, 2000), local government (Conley & Moote, 2003) and higher authority (MacNair, Caldwell, & Pollane, 1983). Therefore, we include “governance level(s) engaged” as a variable. As participatory processes are increasingly engaging multiple levels of governance, the options selected reflect this multiplicity.
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The ninth variable “length of the process” is not often explicitly raised in the literature but systematically used in description of specific cases, suggesting its relevance in successfully implementing participatory processes. Options identified for this variable are: less than a year, one to five years or more than five years.

The tenth variable “number of events” is suggested by Fung (2003, 2006), MacNair et al. (1983) and Ostrom (2005). It is defined by the number of times participants are invited to give their opinion and make collective decisions. Events include, but are not limited to, workshops, meetings and gatherings, in person or not (e.g. online). Rather than broad options as identified in previous literature (single/finite/infinite or regular/limited in time/institutional guarantees to allow repetition), we argue that greater comparison can be achieved by specifying the number of events which took place within the process.

The eleventh variable “degree of participant retention” relates to the extent to which the group of participants remains constant or changes over the different participatory events. Four options were delineated based on past case study examples: less than 24%, 25 to 49%, 50 to 74% or more than 75% of participants attended the whole process.

Concerning the “setting of exchange” variable, we used the options listed by Barreteau et al. (2010, drawn from Bots & van Daalen, 2008) and extrapolated them to participatory processes in general. “Setting of exchange” is defined here as the ways in which participants are involved within participatory processes. For example, participants may at times be asked to give their personal opinion and be therefore involved individually. At other times, they might be involved as a homogeneous group, for example through plenary meetings. Finally, sub-groups may be formed, when the team takes into account the heterogeneity of participants, for example by grouping women together because they feel inhibited by the presence of men in the same group. The “setting of exchange” determines who will interact with whom, and how. Often, an alternation of different settings takes place within the same process, reflected by the possibility to select multiple options for this variable in the framework.

The “degree of participation” is one of the most addressed categories for process description in the literature. Different typologies distinguish degrees to which stakeholders are engaged, the most cited one being Arnstein’s (1969) “ladder of participation”. Numerous alternative terms have been suggested for the different rungs of this ladder (e.g. Goetz & Gaventa, 2001; Lawrence, 2006; Pretty,
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Gujit, Scoones, & Thompson, 1995; Pretty, 1995), as well as alternative concepts to describe degrees or levels of participation (Beierle & Konisky, 2000; Biggs, 1989; Davidson, 1998; Farrington, 1998; Fung, 2003, 2006) or their roles or tasks (MacNair et al., 1983; Rowe & Frewer, 2000; Rowe et al., 2004). Yet most of the options describing the variable are broad and we prefer a concrete listing of stages in which participants may be involved, as explored by Daniell (2012). This variable includes participants in the process only, excluding team members.

The final variable of the process dimension is the participatory “methods and tools” employed during the process. Most typologies of participation suggest methods that are appropriate to different levels of engagement (Arnstein, 1969; Biggs, 1989; Pretty et al., 1995; Pretty, 1995; Richards, Blackstock, & Carter, 2004). Rowe & Frewer (2000) categorize the methods according to their goal (communicate, consult, participate). Many other scholars have reviewed a wide range of tools and methods (Burton et al., 2004; Chambers, 2002; Davies, 1997; DFID, 2002; Galpin, Dorward, & Shepherd, 2000; IAP2, 2004; Involve, 2005; Jayakaran, 2003; Mayoux, 2005; Mikkelsen, 2005; New Economics Foundation, 1998; OECD, 2001; Pretty et al., 1995; Rennie & Singh, 1996; Rietbergen-McCracken & Narayan, 1996; Scottish Parliament, 2004; Shah, Kambou, & Monahan, 1999; Tippett et al., 2007; Wates, 2000). Based on this literature four options were identified for this variable, as listed in Annex 2.1: non-computerized model(s), computerized model(s), surveys and studies, and visioning, foresight, scenario-building.

2.2.3 The outputs, outcomes and impacts dimension

The range of potential outputs, outcomes and impacts of participatory processes can be wide including tangible and intangible, short and long term or environmental and social. We consider in this dimension the three elements usually distinguished by analysts in this field: outputs, as immediate products of the process; outcomes, as effects of the process on the behaviour of key actors in the relevant systems; and impacts, as the extent to which the participatory process play influential roles in solving or at least alleviating the concerns leading to its creation (adapted from Young, 2008). Indeed, the effects of the process depend on various factors, including the objective of the process and the objective of the M&E. The COPP framework does not aim to detail all potential outputs, outcomes and impacts of specific participatory processes, but identifying major changes which may be expected from such processes for diagnostic and comparative purposes.
The outputs, outcomes and impacts dimension includes six variables. Various typologies exist for classifying the impacts of participatory processes. Some are based on the timing (short, middle and long term), others on the type of impact (e.g. social, environmental, political) or on the nature of impacts (tangible or intangible). The variables chosen here try to define broad types of impacts (on the actual participants and on actions implemented by participants) while taking into account their temporal, spatial and social scales. The options associated with these four variables are listed in Annex 2.1.

The “main outputs” of the participatory process are generally quite straightforward and are strongly linked to the objectives of the process. This variable comprises the immediate tangible products of the process, which are generally easy to monitor and appear in the short term, during or right after the end of the process. Outputs may include new, revised or dismissed development plans, policies, investments, technologies, laws, agreements, memorandum of understanding, terms of reference and models. This variable is not necessarily listed in existing frameworks but identified systematically in all descriptions of empirical cases. The list of options proposed should be applicable across various fields of application.

The “impact on participants” variable encompasses the intangible outcomes of the process on participating stakeholders. Many recent researchers focused on the evaluation of participatory processes provide a list of options relevant for this variable (e.g. Carr & Halvorsen, 2001; Conley & Moote, 2003; Ferrand & Daniell, 2006 summarized in Daniell, 2012; Guston, 1999; Innes & Booher, 1999; Perez et al., 2011; Webler & Tuler, 2002). Other authors mention “individual impacts on participants” as one possible impact category, without detailing potential options for describing these impacts (e.g. Einsiedel, Jelsøe, & Breck, 2001; GIS, 2011). Others identify specific individual impacts such as Chess and Purcell (1999), Midgley et al. (2013) and Petts (1995, 2001). Options were identified based on this literature review and include reduction of conflict, improved understanding of target system elements, capacity-building, influence on decision, and increased collaboration and trust.

The third variable “impact on actions implemented by participants” is cited specifically by Innes and Booher (1999). In contrast, some authors mention it as one possible impact category, without detailing options to describe these impacts (e.g. Crosby et al., 1986; Ferrand & Daniell, 2006; Guston, 1999; Houghton, 1988; Midgley et al., 2013; Perez et al., 2011). Finally Webler and Tuler (2002) inter alia, identify specific impacts related to participants’ actions. We identified that “impact on actions
implemented by participants” could be individual behavioural change such as change in daily practices and actions, or collective actions.

There is limited reference in the reviewed papers to the three remaining variables in this dimension, namely “social scale”, “spatial extent” and “timescales” of the impacts, and an absence of explicit inclusion in their frameworks. However, relevance of these variables has been empirically established. Processes often target further “extension” either socially (beyond the group of stakeholders involved) or spatially (beyond the target area) by using pilot sites. Therefore, assessment of the social scales and spatial extent of the impacts of the process seemed relevant variables to be included in the COPP framework. We note that Innes and Booher (1999) mentions the social scale in their framework. Very few of the authors reviewed evoke time explicitly as a category in their framework (e.g. Connick & Innes, 2003; Midgley et al., 2013). Yet, the “timescale of the impacts” is implicitly mentioned in almost all research on participatory processes, especially those making the distinction between outputs (short term)/outcomes (midterm)/impacts (long term) or first-order (during the process), second-order (following year or two) and third-order (longer term) effects (e.g. Connick & Innes, 2003; Young, 2008).

### 2.3 Monitoring and evaluation

Attention to M&E methods enables verifiable assessment of process influence at both the individual level and on group crafted outcomes. M&E provides the analytical foundation to appraise a specific implementation of a participatory process and the reference for future methodological revisions that are aligned with process objectives. However, while participatory approaches have gained some prominence, they are still too rarely rigorously evaluated. Many researchers describe participatory processes and their outcomes without providing details about the M&E approach employed (Frewer & Rowe, 2005). M&E details are critical to compare the efficacy of methods to elicit information sufficiently robust to attribute outcomes to particular participatory interventions.

Three elements are essential to detail to make the M&E transparent. These are: the M&E objective(s), the M&E team and the qualitative and quantitative M&E methods used. Literature on evaluation (e.g. Bellamy et al., 2001; Boyd et al., 2007; Byrne, 2013; Conley & Moote, 2003; Couix, 1997; Fishman, 1992; Laughlin & Broadbent, 1996; Lincoln & Guba, 1989; Renger, Wood, Williamson, & Krapp, 2011; Rossi et al., 1999; Williams, 2007) and guidebooks on social research (e.g. Babby, 2004; Creswell, 1994; Crotty, 1998) were particularly useful resources for identifying these elements.
First, M&E objective(s) can differ from the objective(s) of the process. Yet, both are too often confounded. Various scholars emphasize the importance of clarifying M&E objective(s) (e.g. Conley & Moote, 2003; Midgley et al., 2013; Syme & Sadler, 1994). Based on the work of Bellamy et al. (2001) as well as authors examining the assessment of the quality of the participatory process (e.g. Ashford, 1984; Fiorino, 1990; Peelle et al., 1996; Renn et al., 1995) and authors working on interest-oriented evaluations (e.g. Sewell & Phillips, 1979), we argue that M&E objective(s) can be:

- Donor-oriented: making sure that the process respected the allocated time and costs,
- Beneficiary-oriented: making sure that the intervention/process reached its objective(s), and/or
- Research-oriented: specific M&E objective(s) (e.g. measuring a specific outcome).

Involvement of various stakeholders in the M&E generates a multiplicity of perspectives and objectives in terms of what the M&E should entail, and how and when it should be carried out. Clarifying M&E objectives implies discussions and trade-offs and a strong “framing” moment when “boundary judgments” (Midgley, 1997; Ulrich, 1983; Williams, 2007) are made about what is “in” and what is “out” of the M&E.

Second, the M&E team may be part of, or external to, the team organizing and facilitating the participatory process. Evaluators may be representatives of a development agency, researchers, professional independent consultants or participants in the process. Identity of the evaluator(s) may influence M&E implementation, data analysis and interpretation (Conley & Moote, 2003; Midgley, 2007). It is therefore essential to clarify who M&E team members are and what their relationship with the team and the participants is.

Third, the choice of M&E methods is particularly strategic when monitoring and evaluating a participatory process as M&E methods may impact the results of the study and its quality, validity, and credibility (Patton, 1999). M&E methods are defined here as the techniques or procedures used to obtain and collate raw data on the participatory process. Listings of qualitative methods are quite extensive in social research guidebooks (e.g. Midgley et al., 2013; Syme & Sadler, 1994). They include participant observation, non-participant observation, field notes, reflexive journals or logbooks, interviews and focus-groups, literature review, questionnaires and expectations. Despite limited quantitative methods employed in participatory processes, they are increasingly listed in recent social research guidebooks. They include census or survey (face to face or self-administered), questionnaires, polls and counting of instances of occurrence in participatory events (e.g. speakers
having a say, certain body language expressions, issues raised). Mixed methods approaches are increasingly used for participatory processes (e.g. Daniell, 2012; Poteete, Janssen, & Ostrom, 2010; Smajgl & Ward, 2013).

Section 2.4 describes the application of the COPP framework to five case studies across a diverse set of empirical situations.

### 2.4 Case study application results

The COPP framework was applied to five case studies: three located in the Mekong basin in Southeast Asia and two in eastern Africa. Some context variables are similar as all five studies focused on environmental issues with natural resources as target system elements. Table 2.1 shows differences for the levels of governance influencing the target system elements, the number of previous projects addressing the same issues in the same region and participants’ understanding of target system elements. Additionally, a relationship among the stakeholders existed in some case studies, and was absent in others.
Table 2.1. Application of the COPP framework to five case studies – Context dimension

<table>
<thead>
<tr>
<th>NAM NGUM CATCHMENT, LAO PDR</th>
<th>XISHUANGBANNA, YUNNAN, CHINA</th>
<th>MEKONG DELTA, VIETNAM</th>
<th>RWENZORI REGION, UGANDA</th>
<th>FOGERA WATERSHED, ETHIOPIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target system elements</strong></td>
<td>Water, livelihoods, agricultural production</td>
<td>Forests, Rubber plantations, livelihoods</td>
<td>Livelihoods, rice plantations</td>
<td>Forests, wetlands, water, livelihoods</td>
</tr>
<tr>
<td><strong>Levels of governance influencing the target system elements</strong></td>
<td>Macro: Mekong region agencies, central government</td>
<td>Macro: Mekong region agencies, central government</td>
<td>Macro: Mekong region agencies, central government</td>
<td>Macro: Parliamentarians &amp; ministers &amp; ministers</td>
</tr>
<tr>
<td></td>
<td>Meso: province &amp; district governments</td>
<td>Meso: province &amp; district governments</td>
<td>Meso: province &amp; district governments</td>
<td>Meso: Rwenzori region districts</td>
</tr>
<tr>
<td></td>
<td>Micro: village representatives</td>
<td></td>
<td></td>
<td>Micro: villages</td>
</tr>
<tr>
<td><strong>Other past/present intervention attempts</strong></td>
<td>None</td>
<td>Few</td>
<td>Many</td>
<td>Few</td>
</tr>
<tr>
<td><strong>Pre-existing relationships among participants</strong></td>
<td>No pre-existing relationship</td>
<td>No pre-existing relationship</td>
<td>No pre-existing relationship</td>
<td>Good pre-existing relationships &amp; trust</td>
</tr>
<tr>
<td><strong>Participants’ understanding of target system elements</strong></td>
<td>The majority of participants state they do not understand target system elements</td>
<td>The majority of participants state they do not understand target system elements</td>
<td>The majority of participants state they do not understand target system elements</td>
<td>The majority of participants state they understand target system elements</td>
</tr>
</tbody>
</table>

Table 2.2 lists the participatory process variables for the five case studies. While all five case studies started with similar goals, included multiple events and similar group sizes, all other variables vary.
Table 2.2. Application of the COPP framework to five case studies – Process dimension

<table>
<thead>
<tr>
<th>Participatory process objectives</th>
<th>LAO PDR</th>
<th>CHINA</th>
<th>VIETNAM</th>
<th>UGANDA</th>
<th>ETHIOPIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve participants’ system understanding</td>
<td>Improve participants’ system understanding</td>
<td>Improve participants’ system understanding</td>
<td>Exploring decision-making options, improve participants’ system understanding</td>
<td>Exploring decision-making options, improve participants’ system understanding</td>
<td></td>
</tr>
</tbody>
</table>

| Instigator(s) of the process<sup>11</sup> | Donor, decision makers (MoNRE Lao PDR) | Donor, researchers (ICRAF China) | Donor, decision makers (DoNRE Vietnam), researchers (Uo Can Tho) | Donor (European Commission), researchers (community university) | Donor (European Commission), researchers (IWMI and ILRI) |

| Team<sup>12</sup> | Decision makers (MoNRE Lao PDR), researchers (IWMI, CSIRO) | Researchers (ICRAF China, CSIRO) | Decision makers (DoNRE Vietnam), researchers (Uo Can Tho CSIRO, SIWRR) | Researchers (community university, IRSTEA) | Researchers (ILRI, IWMI, IRSTEA) |

| Origin of the team | The majority of team members do not come from the area and are not affected by the target system elements | The majority of team members do not come from the area and are not affected by the target system elements | The majority of team members do not come from the area and/or are affected by the target system elements | The majority of team members do not come from the area and are not affected by the target system elements |

| Selection of the participants | Selected by the team | Selected by the team | Selected by the team | Selected by the team and by a third party (decision makers /government) |

| Size of the group | Between 25 and 49 (30) | Between 25 and 49 (25) | Between 25 and 49 (45) | Macro: Below 12 (1) Meso: Between 25 and 49 (about 30) Micro: Over 50 (35 groups of about 16 participants each) | Between 25 and 49 (about 46) |

| Level of participants’ process expectations | Low | Low | Low | Low | High |

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<sup>11</sup> MoNRE = Ministry of Natural Resources and Environment  
ICRAF = International Centre for Research in Agroforestry  
DoNRE = Department of Natural Resources and Environment  
IWMI = International Water Management Institute  
ILRI = International Livestock Research Institute  
IRSTEA = French National Research Institute of Science and Technology for Environment and Agriculture  
CSIRO = Commonwealth Scientific and Industrial Research Organisation  
SIWRR = Southern Institute of Water Resources Research
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<table>
<thead>
<tr>
<th>Governance level(s) engaged</th>
<th>Multiple levels</th>
<th>Multiple levels</th>
<th>Multiple levels</th>
<th>Multiple levels</th>
<th>Single level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of process</td>
<td>1 to 5 years (2.5 years)</td>
<td>1 to 5 years (2.5 years)</td>
<td>1 to 5 years (3 years)</td>
<td>1 to 5 years (16 months)</td>
<td>Less than a year (10 months)</td>
</tr>
<tr>
<td>Number of events</td>
<td>Multiple events (5 workshops)</td>
<td>Multiple events (5 workshops)</td>
<td>Multiple events (6 workshops)</td>
<td>Macro: single event Meso: multiple events (4 workshops) Micro: multiple events (7 to 8 workshops per group)</td>
<td>Multiple events (3 workshops)</td>
</tr>
<tr>
<td>Degree of participation retention</td>
<td>50 to 74% of participants attended the whole process</td>
<td>50 to 74% of participants attended the whole process</td>
<td>50 to 74% of participants attended the whole process</td>
<td>Less than 24% of participants attended the whole process</td>
<td>25 to 49% of participants attended the whole process</td>
</tr>
<tr>
<td>Setting of exchange</td>
<td>Participants are involved as a heterogeneous group</td>
<td>Participants are involved as a heterogeneous group</td>
<td>Participants are involved as a heterogeneous group</td>
<td>Participants are involved alternatively individually, as a whole group and as a heterogeneous group</td>
<td>Participants are involved alternatively individually, as a whole group and as a heterogeneous group</td>
</tr>
<tr>
<td>Degree of participation</td>
<td>(Co-) selection of participants</td>
<td>(Co-) M&amp;E design</td>
<td>(Co-) selection of participants</td>
<td>(Co-) M&amp;E design</td>
<td>(Co-) selection of participants</td>
</tr>
<tr>
<td></td>
<td>(Co-) selection of M&amp;E methods</td>
<td>(Co-) M&amp;E design</td>
<td>(Co-) selection of M&amp;E methods</td>
<td>(Co-) analysis of results</td>
<td>(Co-) facilitation of participatory events</td>
</tr>
<tr>
<td></td>
<td>(Co-) analysis of results</td>
<td>(Co-) M&amp;E design</td>
<td>(Co-) selection of M&amp;E methods</td>
<td>(Co-) analysis of results</td>
<td>(Co-) facilitation of participatory events</td>
</tr>
<tr>
<td></td>
<td>(Co-) communication of results</td>
<td>(Co-) M&amp;E design</td>
<td>(Co-) selection of M&amp;E methods</td>
<td>(Co-) communication of results</td>
<td>(Co-) facilitation of participatory events</td>
</tr>
<tr>
<td>Participatory methods and tools</td>
<td>Visioning</td>
<td>Visioning</td>
<td>Visioning</td>
<td>Non-computerized model (role-playing games)</td>
<td>Non-computerized model (role-playing games)</td>
</tr>
<tr>
<td></td>
<td>Computerized models (hydrological models, integrated agent-based modelling)</td>
<td>Computerized models (remote sensing/geographical information systems, integrated agent-based modelling)</td>
<td>Computerized models (hydrological models, integrated agent-based modelling)</td>
<td>Survey (agricultural productivity study, household survey)</td>
<td>Visioning</td>
</tr>
<tr>
<td></td>
<td>Survey (Household survey)</td>
<td>Survey (Household survey)</td>
<td>Survey (Household survey)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All five case studies show positive effects, while the Mekong case study processes suggest even wider impacts beyond the immediate group of participants, as shown in Table 2.3.
Table 2.3. Application of the COPP framework to five case studies – Outputs, outcomes and impacts dimension

<table>
<thead>
<tr>
<th>LAO PDR</th>
<th>CHINA</th>
<th>VIETNAM</th>
<th>UGANDA</th>
<th>ETHIOPIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main output(s)</strong></td>
<td>New development plan (irrigation)</td>
<td>Revised policy (payments for ecosystem services)</td>
<td>New investment plan (for adapting to sea-level rise and salinity intrusion)</td>
<td>New development plan (integrated natural resource management)</td>
</tr>
<tr>
<td><strong>Impact on participants</strong></td>
<td>Improved understanding of target system elements (e.g. of the impacts of irrigation on poverty)</td>
<td>Improved understanding of target system elements (e.g. of payments for agroforestry on rubber production)</td>
<td>Improved understanding of target system elements (effectiveness of available response options to sea-level rise)</td>
<td>Improved understanding of target system elements (e.g. of the environmental impacts of agricultural activities, biocleansing)</td>
</tr>
<tr>
<td></td>
<td>Capacity-building</td>
<td>Capacity-building</td>
<td>Capacity-building</td>
<td>Capacity-building</td>
</tr>
<tr>
<td></td>
<td>Influence on decision</td>
<td>Influence on decision</td>
<td>Influence on decision</td>
<td>Influence on decision</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Impact on actions</strong></td>
<td>Collective action (submission of revised basin development plan)</td>
<td>Collective action (revised design of payments for agroforestry in rubber plantations)</td>
<td>Collective action (revised climate adaptation plans)</td>
<td>Individual actions (e.g. picking polythene bags from rubbish pits, building energy saving stoves)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social scales of the impacts</strong></td>
<td>Within and beyond the group(s) involved in the process</td>
<td>Only within the group(s) involved in the process</td>
<td>Within and beyond the group(s) involved in the process</td>
<td>Only within the group involved in the process</td>
</tr>
<tr>
<td><strong>Spatial extent</strong></td>
<td>In and beyond the area where the process was implemented</td>
<td>Only in the area where the process was implemented</td>
<td>Only in the area where the process was implemented</td>
<td>Only in the area where the process was implemented</td>
</tr>
<tr>
<td><strong>Timescales of impact</strong></td>
<td>Short-medium term</td>
<td>Short-medium term</td>
<td>Short-medium term</td>
<td>Short-medium term</td>
</tr>
</tbody>
</table>
For all five case studies, quite extensive M&E activities were implemented. In the three Southeast Asian case studies, M&E objectives were research, beneficiary and donor-oriented. In the two African case studies, M&E objectives were research and beneficiary-oriented. In all five case studies, evaluators were members of the team organizing and facilitating the participatory process. In the three Southeast Asian case studies, they were supported by external independent consultants while in Uganda, M&E was partly transferred to process participants. Two qualitative and one quantitative M&E methods were used in all case studies: participant observation, interviews and surveys. Additional qualitative methods used in Uganda and Ethiopia included field notes, logbooks, literature review, questionnaires and expectations. An additional quantitative method used in these two cases was the counting of instances of occurrence in participatory events.

**2.5 Discussion**

We applied the COPP framework to five cases of participatory processes across five different contexts. The goal was to test first if the framework facilitated the development of a comprehensive and clear description of participatory processes, and second, if the descriptions facilitated a diagnostic step by applying a cross-comparative perspective. Ultimately, the purpose of this cross-comparison is to analyse the effectiveness of participatory processes and their elements. Clearly, these questions will not find a final answer in this paper as the COPP framework requires testing by the broader research and practitioner community. The effectiveness of the COPP framework depends on the willingness and capacity of other scholars to apply the framework and, thereby, subsequently improve its theoretical structure and practical implementation. It will also prove its effectiveness by leading to insights resulting from the comparative analysis of COPP-based descriptions. Finally, effectiveness of the COPP framework will also depend on how easily participatory processes can be replicated based on COPP-based descriptions.

**2.5.1 Is the COPP framework providing a clear and comprehensive description and is it sufficiently generic?**

The first element entails that descriptions of participatory processes are sufficiently clear and comprehensive so that readers get a complete and clear understanding of what the participatory project entailed and what outcomes it produced. This implies that the COPP framework can be applied
consistently across multiple settings. The application of the COPP framework to the five case studies shown in section 2.4 was not without challenges.

Not unexpectedly, it was a considerable challenge to describe the context of the participatory process in only five variables. From a field work perspective, such simplification neglects the contextual richness and thereby characteristics that potentially determined process outcomes. For a cross-comparative diagnostic however, contextual richness needs to be delimited to a level where the comparison of case studies is tractable. Reducing the context to key characteristics is therefore imperative to facilitate diagnosis.

The application of the process related dimension and its fourteen variables was comparably easy for all five case studies. The description of outputs, outcomes and impacts, however, was challenging as the distinction between “impact on participants” and “impact on actions” and their social, spatial, and temporal extent seemed rather subjective. This subjectivity can be reduced by having a proper M&E system in place that actually reflects the outcome and impact variables adequately. The clarification of the three M&E elements in the five case studies was easy and clear as it largely required the description of methods or steps.

Despite a few challenges, the five case studies suggested that the COPP framework is sufficiently generic to derive clear and consistent descriptions. The context-related limitations are likely to constrain diagnostic work as comparative studies might not be able to utilize information across all variables; some information might still be too context specific. In contrast, some of the contextual richness is lost as the result of the standardized description. An important aim of the paper is to catalyse efforts to discover the attributes of contextual information that are most effective in facilitating a comparative analysis, contributing to future COPP revisions and possibly a more generalizable COPP framework.

2.5.2 What insights does the comparative perspective provide?

From a diagnostic perspective, a sample of five case studies restricts the derivation of robust insights. Nevertheless, our goal was a pragmatic examination of the COPP framework, comparing available case studies to establish a foundation for expanded hypothesis testing. Impacts beyond the groups involved in the process are only reported for two of the five case studies while all five case studies report action
level impacts. A multi-level approach is a common characteristic in four of the five examples, combining focus on improved participants’ system understanding and decision-specific support. The potential derived hypothesis is that multi-level engagement is more likely to lead to outcomes. Current literature supports this hypothesis, and investigates which levels are needed and how to engage them (e.g. Daniell & Barreteau, 2014).

Another example for formulating testable hypotheses from the diagnostic comparative approach is that there is a high potential for method substitution. Some of the case studies described above worked with visions and simulation modelling while others worked with role-playing games. This emphasizes the need to improve our understanding of the effectiveness of specific methods in specific situations. Applying the COPP framework to a much larger set of case studies would allow for testing the hypotheses that: a) specific methods are easily replaceable, for instance computational modelling with role-playing games; and b) the degree of system complexity will erode or compromise the effectiveness of specific methods.

A third hypothesis derived from the application of the COPP framework is linked to the implementation mode. All case studies document successful impacts on planning or decision-making processes. While all case studies have been implemented with multiple ongoing interactions, workshops and face-to-face meetings, the three Mekong cases, which showed broader social and spatial impacts, have been implemented over a period of more than two years. Also the implementation itself involved local on-the-ground coordination. The potential hypothesis derived from this comparison would test whether a minimum engagement period of two years, with regular events and local coordination, is more likely to lead to the achievement of project objectives. Literature based insights point to Daniell (2012) who describes a counter example indicating potential for revision and refutation of this hypothesis. Again, this would need to be tested with a much larger number of case studies.

These three proposed hypotheses indicate the application of the COPP framework as a diagnostic, comparative device and a reference to develop hypotheses to test the efficacy of process characteristics and attributes. Ultimately, the purpose of this cross-comparison is to analyse the effectiveness of participatory processes and their elements. Given the complexity of the systems and players and the variability in contexts, processes and outcomes, there exists a risk that such a systematic comparison would fail in capturing some of the key elements that determine effectiveness. For instance, decision makers’ commitments to embrace participatory processes outputs or
stakeholders’ view of their own capacity to influence the process and its outcomes can play a critical role in process effectiveness. Yet these elements are very subjective and difficult to evaluate. But it is only after comparing a critical sample of cases that we will be able to refine the framework and to identify the potential recurrence of the derived hypothesis. Therefore, failure is a risk we are willing to take considering that conversely, success of our endeavour would substantially contribute to the advancement of this increasingly prominent research domain. In addition, a second major added-value of the framework is to point out critical elements a participatory processes should entail. As a result, even if identification of key effectiveness elements fails, comparison of a larger number of cases and refinement of the framework would still be a substantial contribution to research on participatory processes in that respect.

2.6 Conclusion

This paper developed a framework that aims for a clear and comprehensive description of participatory processes and their comparison. Ultimately, the purpose of this cross-comparison was to analyse the effectiveness of participatory processes and their elements. The framework was applied to an initial small sample of five case studies in Southeast Asia and East Africa. The small size of this sample precluded robust generalizable claims. However, it allowed us to conclude that the COPP framework has the potential to be sufficiently generic and comprehensive to allow for further diagnostic steps. Three hypotheses were derived from this initial application which could be used as a basis for the development of further formal testable hypotheses in subsequent analytical steps. These are: 1/ multi-level engagement is more likely to lead to outcomes, 2/ specific methods are easily replaceable and the degree of system complexity will erode or compromise the effectiveness of specific methods and 3/ a minimum engagement period of two years, with regular events and local coordination, is more likely to lead to the achievement of project objectives. We recommend further testing of the COPP framework by the community of researchers and practitioners. We argue that such testing would not only promote exchanges of experiences and learning among the community, but would also provide a greater understanding of participatory processes, their context and their outcomes. In turn, this would guide researchers and practitioners in designing future participatory processes.
## Annex 2.1 • Framework application template

### A. Context-related characteristics

**A1. What are the system elements the participatory process targets to improve?**
(Multiple options can be chosen ☑)
- Natural/environmental: e.g. water, forests, wetlands
- Economic: e.g. labour, import-export
- Social: e.g. livelihoods, migration
- Political: e.g. votes, policies
- Urban: e.g. infrastructures, housing
- Health: e.g. facilities, equipment
- Technological: e.g. internet
- Educational: e.g. curriculum, classes

**A2. Which levels of governance are critical influencers of the target system elements?**
(Multiple options can be chosen ☑)
- Macro (national or larger)
- Meso (subnational)
- Micro (village or group of villages)

**A3. Have there been previous intervention attempts aiming to influence the selected target system elements?**
- Many
- Few
- None

**A4. What relationships existed between participants before the participatory process started?**
- No pre-existing relationship
- High degree of mistrust/conflict
- Moderate trust and conflict
- Good pre-existing relationships and trust

**A5. How well did participants understand the target system elements before the participatory process started?**
- The majority of participants state they understand target system elements
- The majority of participants state they do not understand target system elements

### B. Process-related characteristics

**B1. What are the main objectives of the participatory process?**
(Multiple options can be chosen ☑)
- Exploring decision-making options (e.g. planning, laws)
- Improve participants’ system understanding
- Resolving or avoiding conflicts
- Gathering knowledge (e.g. mapping of the social-environmental system, geographical information systems, inventory)

**B2. Who had the initial idea and instigated the process first?**
(Multiple options can be chosen ☑)
- Donor or development agency
- Researchers
- Decision makers/government
- Civil society
- Private sector

**B3. Who lead the participatory process, organized and facilitated the events?**
(Multiple options can be chosen ☑)
- Donor or development agency
- Researchers
- Decision makers/government
- Civil society
- Private sector

**B4. What is the origin of the team?**
- The majority of team members come from the area and/or are affected by the target system elements
- The majority of team members do not come from the area and are not affected by the target system elements

**B5. Who selected participants?**
(Multiple options can be chosen ☑)
- Selected by the team
- Selected by a third party, external of the organizing and facilitating team

**B6. How many participants did the process actively involve (excl. team members)?**
(In case of multiple parallel processes specify for each process separately)
- Over 50
- Between 25 and 49
- Between 12 and 24
- Below 12

**B7. What could participants’ expectations best be described?**
- High: they believe this process can change the target system
- Low: they don’t believe this process can change the target system

**B8. How many levels of governance participated?**
- Single level
- Multiple levels
95. Towards understanding participatory processes: framework, application and results

B9. How long did the participatory process last?
   (Specify)
   ☐ More than 5 years
   ☐ 1 to 5 years
   ☐ Less than a year

B10. How many events took place in this time frame?
   ☐ Multiple events (Specify)
   ☐ Single event

B11. What is the approximate retention rate of participants during the process?
   ☐ More than 75% of participants attended the whole process
   ☐ 50 to 74% of participants attended the whole process
   ☐ 25 to 49% of participants attended the whole process
   ☐ Less than 24% of participants attended the whole process

B12. What is the main situation of participatory activities, the setting of exchange?
   (Multiple options can be chosen ☑)
   ☐ Participants are involved individually
   ☐ Participants are involved as a group that is considered as a whole by the organizing and facilitating team, independent of participants’ diversity
   ☐ Participants are involved as a heterogeneous group

B13. What stages of the process were genuinely participatory?
   (Multiple options can be chosen ☑)
   ☐ (Co-) design of the project proposal
   ☐ (Co-) design of the participatory process
   ☐ (Co-) selection of process methods
   ☐ (Co-) selection of participants
   ☐ (Co-) facilitation of participatory events
   ☐ (Co-) M&E design
   ☐ (Co-) selection of M&E methods
   ☐ (Co-) analysis of results
   ☐ (Co-) communication of results

B14. What methods and tools did the participatory process employ?
   (Multiple options can be chosen ☑)
   ☐ Non-computerized model(s) (e.g. role-playing games, system representation(s))
   ☐ Computerized model(s)
   ☐ Surveys and studies
   ☐ Visioning, foresight, scenario-building

C. Outputs, outcomes and impacts-related characteristics

C1. What were the main outputs of the participatory process?
   (Multiple options can be chosen ☑)
   ☐ New, revised or dismissed development plan/policy/investment/technology/law
   ☐ Agreement, memorandum of understanding, terms of reference
   ☐ Model
   ☐ Investment in new infrastructure/land use change/management processes
   ☐ No specific artefact

C2. How can the main impact on participants best be described?
   (Multiple options can be chosen ☑)
   ☐ Reduction of conflict
   ☐ Improved understanding of target system elements
   ☐ Capacity building
   ☐ Influence on decision
   ☐ Increased collaboration, trust, networking, relationship building
   ☐ None

C3. What was the main impact on actions implemented by participants?
   (Multiple options can be chosen ☑)
   ☐ Individual behavioural change, change in daily practices and actions
   ☐ Collective actions
   ☐ None

C4. At which social scales did the impacts realise?
   ☐ Only within the group(s) involved in the process
   ☐ Within and beyond the group(s) involved in the process

C5. What was the spatial extent of impacts achieved?
   ☐ Only in the area where the process was implemented
   ☐ In and beyond the area where the process was implemented

C6. What are the timescales of impacts?
   (Multiple options can be chosen ☑)
   ☐ Short term
   ☐ Medium term
   ☐ Long term
Chapter 3 • The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

Abstract

Evaluating participatory processes, participatory planning processes especially, can be challenging. Due to their complexity, these processes require a specific approach to evaluation. This paper proposes a framework for evaluating projects that have adopted a participatory planning approach: the Monitoring and Evaluation of Participatory Planning Processes (MEPPP) framework. The MEPPP framework is applied to one case study, a participatory planning process in the Rwenzori region in Uganda. We suggest that this example can serve as a guideline for researchers and practitioners to set up the monitoring and evaluation of their participatory planning process of interest by following six main phases: 1. Description of the case, 2. Clarification of the M&E viewpoint(s) and definition of the M&E objective(s), 3. Identification of the context, process and outputs/outcomes analytical variables, 4. Development of the M&E methods and data collection, 5. Data analysis, and 6. Sharing of the M&E results. Results of the application of the MEPPP framework in Uganda demonstrate the ability of the framework to tackle the complexity of participatory planning processes. Strengths and limitations of the MEPPP framework are also discussed.

Key words
Complexity; institutions; monitoring and evaluation; organizations; participatory research; planning
3.1 Introduction: challenges for the monitoring and evaluation of participatory planning processes

Participation is increasingly used in different disciplines as a way of involving stakeholders in decision making regarding various issues, especially in the political, technological, environmental, social and health domains (Rosener, 1978; Rowe & Frewer, 2000). Participation may be defined as “the practice of consulting and involving relevant stakeholders in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for policy development” (Rowe & Frewer, 2004, p.512). In this paper, we define stakeholders as people or organizations either affected by the management process or who can affect it (Glicken, 2000). For example, in an environmental process, stakeholders may include direct users (e.g. farmers), governmental and non-governmental representatives, researchers and private sector individuals or organizations. We define participants as stakeholders involved in the participatory process. In that sense, all participants are stakeholders but not all stakeholders are participants.

One of the many participation methods is participatory planning. “Participatory planning is a process usually designed to address a specific issue, opportunity or problem with the intent of resolving or exploiting it successfully through the collaborative efforts of the crucial stakeholders. This means getting very specific about what is done, to what extent, by whom, for what purpose” (UN Habitat, 2001, p.20). It therefore aims at generating through dialogue a list of actions to be undertaken in a coming period of time to reach some common objective, provided some conditions are met. The rationale underlying this approach asserts that by engaging beneficiary stakeholders in a participatory planning process, a collective vision can be established and effectively realized. The concept of planning considered here is an “adaptive” one, which is often called “strategic planning” (Simon, 1993). It is opposed to a long prevalent “ballistic” conception of planning (Avenier, 1997) which is very fixed and formalized, and not appropriate in a context perceived as complex (see for example Mintzberg, 1994). According to Simon (1993, p.20), the task of strategic planning is to “assure a stream of new ideas that will allow [an] organization to continue to adapt to its uncertain outside world”. It implies being open to potential endogenous and exogenous changes in the environment and adapting to them. Indeed, in an attempt to deal with complex issues, be they political, urban, technological, environmental, social or health related, researchers and practitioners are increasingly turning towards participation to increase the effectiveness and adaptivity of the planning process and contribute to the adaptivity and sustainability of the system of interest (Smith, 1973).
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

Because participatory planning is still often controversial (e.g. Cooke & Kothari, 2001) and can appear as a costly process for policymakers, evaluation is required to inform the debate on its real costs and outcomes. In addition, rigorous monitoring and evaluation (M&E) can also be seen as an essential part of the change process towards the adaptivity and sustainability of the system of interest. As Bellamy et al. (2001, p.408) note: “evaluation is fundamental to identifying change, supporting an adaptive approach that is flexible enough to meet the challenge of change, and enabling progressive learning at individual, community, institutional and policy levels”.

It must be noted that depending on the disciplines, the terms “research” on and “M&E” of participatory processes tend to be used interchangeably. As do “data collection methods” and “M&E methods”, and “researchers” and “evaluators”. For a purpose of clarity, we will use the terms “monitoring and evaluation (M&E)” in the rest of the paper. We also distinguish facilitators from evaluators. Facilitators are individuals designing, implementing and managing the participatory process (based on Groot & Maarleveld, 2000). They can be researchers, decision makers, representatives of a development agency or professional facilitators. Evaluators are individuals designing, implementing and analysing the protocol destined to monitor and evaluate the participatory process and its results. Evaluators can be facilitators, participants or external evaluators (e.g. representatives of a development agency, researchers or professional independent consultants).

Monitoring and evaluating participatory processes in general can be challenging for various reasons. First, each participatory process is unique; set in a specific context, with its own relevant participants, objectives and issues. This uniqueness has two consequences for the M&E: 1/ a M&E framework developed for a specific participatory process can rarely be reused “as is” in another setting with different process and M&E objectives (Brunner, 2004; Burton et al., 2006; Midgley et al., 2013); and 2/ changes taking place in a given system can depend on many drivers, making it difficult, if not impossible, to establish direct causal links between the process and its outcomes (Byrne, 2013; Mayne, 2012; Rogers, 2008). This raises the need for rigorous methods to examine these processes. Secondly, participation of stakeholders makes participatory processes particularly uncertain and complex. Participants may have different perspectives, objectives and rationalities (Bellamy et al., 2001; Midgley, 2007). Again, this complexity has two main consequences for M&E: 1/ evaluators need to be open to “surprises”, i.e. unexpected events, actions or comments, which may emerge during the process and be able to capture them (Levin-Rozalis, 2004; Sanderson, 2000); and 2/ data collection methods need to be adaptive in the sense that they may need to be modified “on the way” to cater for misunderstandings and gaps in the initial M&E framework (Patton, 2010). Because of this
uncertainty, timelines can shift. This has consequences for budget and personnel availability. Thirdly, evaluators of participatory processes are often, but not always, engaged. Evaluators are embedded in their objects of analysis: they create relationships with participants, sometimes even participate in the design of the participatory process (Patton, 2010). As such, their intervention might impact the process. Moreover, evaluators often seek to transfer the knowledge gained through the M&E into action, for example to improve the design of the participatory process. Such “applied” position has to be taken into account in the M&E as it may influence, positively or negatively, the process and the participants (Ryan & Schwandt, 2002). Finally, the M&E of participatory processes is often, but not always, participatory. There are various reasons for involving participatory process participants in the M&E. It can be seen as a way to increase the likelihood of evaluation utilization (Alkin, Daillak, & White, 1979). It can also be a way to give voice to the most disadvantaged and powerless participants, therefore serving social justice (House, 1976). Participants can express their personal view of how the process impacted them, and whether they achieved their objectives or felt they were heard through the process. Participants’ knowledge of the context and the social sphere can also be very valuable when monitoring and evaluating the participatory process (O’Sullivan & O’Sullivan, 1998; Taut, 2008). For instance, they might be more able to analyse discussions and power influences as they know pre-existing relationships among participants. But engaging participants in evaluating the very process in which they are involved requires the M&E framework, methods and protocol to be transferable. It also requires rigorous assessment of the consistency and coherence of the data collected and analysed (Blackstock et al., 2007).

Participatory planning processes have their specificities which makes their evaluation even more challenging. These specificities relate to links and differences between contextual, procedural, substantive and operational M&E, illustrated in Figure 3.1. The first specificity is a blurred frontier between contextual and procedural M&E, which relate respectively to M&E of the context and M&E of the participatory planning process (Burton et al., 2006; Innes & Booher, 1999). This frontier is particularly blurred when the process aims at being institutionalized or operationalized (Connick & Innes, 2003). This blurred frontier between the context and the process has consequences for the M&E: 1/ Context > Process: On the one hand, power and social justice issues happening in the broader social sphere will likely be reproduced within the participatory arena. For instance, decision makers and politicians, who are used to planning activities, may have a stronger influence on the decision making and generate unequal participation. It can be the role of the M&E to identify these issues and communicate them to facilitators such that means can be found to highlight them and get them to be discussed by participants, for example through social simulation (Baur, Abma, & Widdershoven, 2010;
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

Midgley, 2007). 2/ Process > Context: On the other hand, events and discussions happening within the process may also have impacts outside of the group of participants. Issues discussed during the participatory planning process may lead to decisions which will be taken “behind closed doors”, meaning outside of the process arena, and with stakeholders who were not part of the process. These relationships may need to be monitored and evaluated. The second specificity is a blurred frontier between procedural and substantive M&E, respectively M&E of the process and of its outputs/outcomes (Chess & Purcell, 1999; Innes & Booher, 1999; Rowe & Frewer, 2000). Participatory planning processes alternate between phases of “opening” and innovation, like brainstorming on potential actions, and phases of “closing” and decision making, like prioritization of actions or implementation plan. Procedural M&E, by summarizing and providing feedback to participants about the process and the main outcomes of the “opening” phases, may influence the results of the participatory process, that is decisions made during “closing” phases (Senge, 1990). Therefore, the frontier between the M&E of the process and of its outcomes may be blurred. The third specificity is a blurred frontier between procedural and operational M&E, respectively M&E of the participatory planning process and of the plan implementation (UN Habitat, 2001). The planning process refers to the development of the plan while the plan implementation refers to the execution of the actions included in the plan on the ground. Both need to be monitored and evaluated. Yet, decisions about the M&E of the plan implementation have to be made during the planning stage, for example by discussing who is going to M&E plan implementation or how adaptation actions may be triggered if changes in the situation require the plan to be modified. As a result, there often is a confusion between procedural and operational M&E (Love, 2004; Talen, 1996).

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13 For a detailed discussion of the role of facilitators, see e.g. Kaner (2014).
These challenges show that participatory planning processes require a specific M&E approach. This article proposes a framework for assessing projects that have adopted a participatory planning approach: the Monitoring and Evaluation of Participatory Planning Processes (MEPPP) framework. The MEPPP framework is applied to one case study, a participatory planning process in the Rwenzori region in Uganda. The article concludes with a discussion on the strengths and weaknesses of the MEPPP framework.

### 3.2 Existing literature related to the M&E of participatory planning processes

Four main strands of literature are relevant related to the M&E of participatory planning processes.

The first strand draws from the literature on social-environmental systems, institutions and policy-making, governance and policy assessment. Across these topics, one common factor is recurrent which is highly relevant to our effort: the distinction between context, process and outputs/outcomes.
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes (e.g. Beierle & Cayford, 2002; Midgley et al., 2013; Ostrom, 2005; Sabatier, 1988). We use this distinction as the three main clusters of our framework.

The second and most abundant strand examines the evaluation of public participation processes (e.g. Chess & Purcell, 1999; Rowe & Frewer, 2000, 2004). Many authors in this strand identify variables for assessing the “effectiveness” of participatory processes, that is the extent to which a process allows to reach its predetermined goal (e.g. Cunningham & Tiefenbacher, 2008). We define variables as contextual, procedural and outcome elements to be monitored and evaluated. For example, if the M&E aims at evaluating whether the process is fair, procedural variables to be monitored and evaluated may relate to participants’ representativeness or ability to express their opinion. Unlike “traditional” evaluation approaches such as those advocated by donor agencies (e.g. The World Bank, 2004; UNDP, 2009), we argue against setting a priori values or indicators for each variable (e.g. “participants shall include at least one representative of each organization involved in environmental management in the region”). Indicators set performance targets to be reached. These are useful when M&E is carried out for control purposes, for example to evaluate if process designers’ expectations have been met, but not otherwise. Our approach caters for broader M&E objectives than for control only. This is in line with Scriven (1991, p.180) when he mentions that the purpose of the M&E is “finding out what the program is actually doing without being cued to what it is trying to do.”

Literature on public participation evaluation provides a good basis to identify potentially relevant variables within our three clusters. For example, some authors list outcome variable such as social capital, building learning or greater acceptability (see e.g. Rowe & Frewer, 2004 for a comprehensive review). However, we argue that depending on the definition of “effectiveness”, the objective of the process and the objective of the M&E, variables may differ from one case to another (Midgley, 2007). Therefore the lists of variables suggested by those authors need to be adapted to specific cases, as will be illustrated in the following sections of this paper.

The third strand of literature focuses on different types of planning, namely participatory, collaborative, communicative and consensus-building (Forester, 1999; Healey, 2003; Innes & Booher, 1999; Sager, 1994; Smith, 1973). By exploring these planning types, these scholars encourage us to add a “descriptive” part in our “process” cluster. They draw our attention on the need to know who the participants are, and to consider individuals rather than the collective when doing our M&E, as participants may have differing knowledge and interests (Reed, 2008). Informing these descriptive variables corresponds to gathering qualitative data on the participatory planning process. We decided to extend this “descriptive” part to the other two clusters, context and outputs/outcomes. Within this
strand, some scholars have developed approaches for the evaluation of planning processes, participatory or not (Connick & Innes, 2003; Faehnle & Tyrväinen, 2013; Innes & Booher, 1999; Laurian & Shaw, 2008; Sager, 1981). In the same line, a less theoretical but all the more relevant literature comes from practitioners’ experience in evaluating participatory planning processes. Research projects and efforts especially provide very useful guidelines on how to build a M&E framework tailored to a specific participatory planning process and research question (Better Evaluation, 2014; CDI, 2013; Lefevre, Kolsteren, De Wael, Byekwaso, & Beghin, 2000; Ridder et al., 2005; UN Habitat, 2001). The six phases of the MEPPP framework are drawn from this literature. However, we argue that much examination of participatory planning processes lacks a specification of the M&E methods used (Frewer & Rowe, 2005). Yet, the choice of the methods, along with the viewpoints of the evaluators, play important roles in regards to the robustness, validity and transparency of the M&E (Patton, 1999), as is demonstrated by the fourth strand of literature.

A fourth strand draws from management science and is concerned with evaluation in general, and especially with developing pluralistic, collaborative, participatory and accountability evaluation models which are adapted to the complexity of participatory planning processes (Byrne, 2013; Midgley, 2007; Williams, 2007). From this literature, we retain the need for reflexivity in the M&E. Indeed, the definition of the M&E objective(s) is a strong “framing” moment during which the boundaries of the data to be collected are set (Williams, 2015). In that sense, the M&E is not neutral: objectives are defined by evaluators who have their own viewpoints, assumptions and priorities (Pini, 2004). It is also strongly influenced by the context, by the availability of means and resources, by donor or project agendas and by the history and experience of the people designing it. In addition to the three clusters, we therefore need to clarify aspects such as who is performing the evaluation, what their values are and what the evaluation’s intent is (Blackstock et al., 2007; Pini, 2004). In other terms, we need to specify the M&E viewpoint(s) chosen. In addition, this literature provides insights on how to set up the M&E by identifying the M&E boundaries and successive steps (e.g. Boyd et al., 2007). It also draws our attention on adaptivity of the M&E: selected M&E variables a priori should not prevent the evaluator from remaining open to “surprises” (Sanderson, 2000). Finally, this literature is useful for the analysis of the data collected through the M&E, notably by questioning the notion of causality (e.g. Mayne, 2012).
3.3 Methods: introduction to the Monitoring and Evaluation of Participatory Planning Processes (MEPPP) framework

Based on the lessons learnt from the literature, we suggest the MEPPP framework for evaluating projects that have adopted a participatory planning approach. This framework cannot be used “as is”: it does not provide a definitive list of analytical variables to be evaluated in each case. Instead, it aims at providing guidelines on how to identify these variables depending on the objectives of both the process and the M&E. As such, it is wide-ranging and able to be used across diverse cases. The next section illustrates the use of the framework with a concrete case.

The MEPPP framework is based on three main clusters, as illustrated in Figure 3.2:

- **Context**: broader social-economic-political-environmental system in which the participatory planning process takes place,
- **Process**: way in which the participatory planning process is operationalized,
- **Outputs/Outcomes**: tangible and immediate products of the participatory planning process, like plans, agreements or actions: “outputs”; and less-tangible or longer-term effects of the process like behavioural changes, learning or social capital: “outcomes” (building on Young, 2008).

Each cluster is divided into two parts:

- **A descriptive part** which contains variables describing the context, process and outputs/outcomes. It provides information which should be systematically collected on any participatory planning process and which can be used as a basis for the “analytical” part. For instance, it provides information on participants and facilitators which can be useful for the analysis of relational networks or social capital. These descriptive variables do not have analytical value per se when used on one or few cases only. However, they can have a strong diagnostic value when used across a great number of cases. This descriptive part corresponds to the Comparison of Participatory Processes (COPP) framework introduced in chapter 2.
- **An analytical part** which contains variables specifically selected to answer the M&E objective. Unlike the descriptive variables, the analytical variables will differ in each case depending on the context, the objectives of the process and of the M&E. This analytical part is the core of the MEPPP framework.
In some cases, some descriptive and analytical variables can be similar. For example, the “facilitators” descriptive variable will become an analytical variable if the objective of the M&E is to evaluate the influence of facilitators on the decisions made by participants.

The application of the MEPPP involves six main phases:

1. Description of the case using the context, process and outputs/outcomes descriptive variables (see chapter 2),
2. Clarification of the M&E viewpoint(s) and definition of the M&E objective(s),
3. Identification of the context, process and outputs/outcomes analytical variables based on the M&E objective(s),
4. Development of the M&E methods to inform the descriptive and analytical variables and data collection (see chapter 4),
5. Analysis of the data collected, eventually establishment of links among descriptive and analytical variables and among context, process and outputs/outcomes variables in order to inform the M&E objective(s) (see chapter 6),


Phase 1 to 3 are often referred to as “scoping” (Fitzpatrick, Sanders, & Worthen, 2012). The descriptive part (phase 1), is quite straightforward to apply as it provides a pre-determined list of descriptive variables (see Figures 3.2 and 3.3 and chapter 2).

The analytical part of the M&E design (phases 2 and 3), on the other hand, is particularly strategic. The application of the MEPPP framework to a specific case implies discussions and trade-offs and a strong “framing” moment when “boundary judgments” (Midgley, 1997; Ulrich, 1983; Williams, 2007) are made about what is “in” and what is “out” of the M&E. These trade-offs appear at each phase of the MEPPP framework application, but are particularly salient when defining the M&E objectives and identifying the analytical variables (phases 2 and 3) (Greene, 1997). These trade-offs are all the more strategic that participatory planning processes evaluators often adopt an engaged and participatory position (Patton, 2010; Ryan & Schwandt, 2002). Indeed, evaluators can have different visions of the process and of what should be evaluated (Blackstock et al., 2007). M&E is necessarily subjective (Finlay, 2002). MEPPP requires this subjectivity to be made explicit by specifying the viewpoint (or in some cases viewpoints) chosen.

Phase 2 involves the clarification of the M&E viewpoint(s) and objectives. Discussions around M&E objectives can highlight the multiple objectives of the evaluators involved in the M&E design. Phase 3 consists in the identification and selection of analytical variables for the context, process and outputs/outcomes clusters. The order among those clusters depends on the M&E objectives. If the M&E objectives relate to the outputs/outcomes, as is the case in the example presented in the next section, evaluators will start by identifying the outputs/outcomes analytical variables before the context and process ones. But if the M&E objective relates to the context or the process, such as evaluating the process transparency for example, these clusters would have to come first. The identification and selection of analytical variables within each cluster is partly made a priori based on existing literature (top-down or deductive) and partly based on participants’ goals and experiences (bottom-up or inductive). Resources allocated to the M&E may require evaluators to make trade-offs about which M&E objectives and analytical variables should be included in the particular M&E program (Laurian & Shaw, 2008).
These aspects of subjectivity and multiplicity can be seen both as a strength and a weakness of the M&E. On the one hand, involvement of multiple evaluators with their own viewpoints and boundary judgments can be seen as mitigating against the “objectivity” and “neutrality” of the M&E (see Greene, 1997 for a discussion on this topic). Our suggested solution to that is transparency of the M&E objective(s), evaluators’ position and methods used. This can be done by taking into consideration the M&E viewpoint(s) when analysing the data collected and making sure that the M&E objective(s) are clear for all evaluators. On the other hand, we argue that this subjectivity can actually be a strength (Chess & Purcell, 1999; Daniell, 2012). It allows the multiplicity of evaluators’ viewpoints, assumptions, priorities and constraints to be highlighted. It also builds their capacity and increases the transferability of the M&E (Renger et al., 2011). These skills are also all the more necessary for the latter M&E of the plan implementation, or operational M&E.

However, while phases 2 and 3 are particularly strategic due to their subjectivity, few guidelines exist in the literature explaining concretely how to handle them. We argue that an illustration of the application of these two phases of the MEPPP framework on a specific case may be useful for researchers and practitioners wanting to monitor and evaluate a participatory planning process. The next section illustrates the application of the six phases of the MEPPP framework on a participatory planning process in the Rwenzori region in Uganda, with a particular emphasis on phases 2 and 3. Phases 4 to 6 are more operational and straightforward.

### 3.4 Results and application of the MEPPP framework on a specific case: the Rwenzori participatory planning process in Uganda

#### 3.4.1 Phase 1. Description of the case using the context, process and outputs/outcomes descriptive variables

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14 This notion of subjectivity in the M&E resonates with Donna Haraway’s (1988) notion of “situated science”.
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

Context

The Rwenzori is a Mountain range located in western Uganda, at the border with the Democratic Republic of Congo. The case study site covers 14,000 km² over seven districts and a population of about 2.4 million people. The main social and environmental issues in the area include massive deforestation and overexploitation of land and natural resources, including wetland encroachment, intensification of agriculture and pollution and depletion of freshwater resources (Migongo-Bake & Catactutan, 2012). Regular food shortages and diseases outbreaks occur, adding to the burden of a population which is already partly below the poverty line. Many donors have left the region. Nevertheless, civil society organizations have been and keep intervening in the area to address social and environmental issues. These include a botanical garden, a community university and a coalition of NGOs. For a detailed description of the Rwenzori case context, see sections 5.4 and 7.4.1.

Process

In 2010, a group of researchers from Mountains of the Moon community University (MMU), based in the Rwenzori, answered a call from the European Union to participate in a project called AfroMaison. AfroMaison’s objective was to "contribute to bringing the concept of Integrated Natural Resources Management (INRM) into practice at the meso-scale" (AfroMaison, 2010, p.6). Part of this project was dedicated to the proposal and the validation of INRM plans actively engaging relevant stakeholders. AfroMaison provided the opportunity to design and test a framework for evaluating participatory planning processes in practice. It is in the frame of this project that the MEPPP framework was developed.

The participatory planning process was adapted from the AquaStress project (Ferrand et al., 2006) and comprised six phases:

1. Procedural agreement,
2. Evaluation and identification of a long-term common objective (problem framing),
3. Action proposal,
4. Selection and integration of actions,
5. Test of the plan using participatory simulation tools (role-playing games),
6. Implementation plan.
In the Rwenzori, the participatory planning process had three fundamental overall objectives: (i) to improve participants’ understanding and acceptance of their complex environment, (ii) to produce an integrated plan for natural resource management in the region and foster participants’ ownership and consensus over this plan, and (iii) to create the conditions for participants and stakeholders to be able to implement the plan themselves.

This process was first implemented at the meso level with a group of about 30 participants through a series of four workshops over a period of 16 months, from April 2012 to July 2013. Facilitators were six researchers from MMU and three researchers from international research institutes. They received support from interns, students and participants. The meso-level group included representatives of the civil society, local governments, the private sector and universities. The process was then extended to the local level with 35 groups of about 16 farmers each in different communities throughout the region. Each group participated in seven to eight workshops. Both meso and local participants were selected by facilitators. At the meso level, only a few participants attended all four workshops while at the local level, the groups remained consistent over time. Meso-level participants were involved in the design of the process, including selection of participants, facilitation of the workshops, selection of the participatory tools used and communication of results. The main participatory tool was a non-computerized role-playing game (Abrami et al., 2012; Ferrand, Farolfi, Abrami, & Du Toit, 2009) which was used mainly to engage participants in a reflection about their social and environmental setting and to trigger suggestions about potential INRM actions. For a detailed description of the Rwenzori participatory planning process, see section 7.4.

Outputs/Outcomes

The main output of the participatory planning process was the Rwenzori region INRM plan. However, the process also had “less tangible” outcomes such as improved understanding of target system elements, capacity-building and increased collaboration and trust (Ducrot et al., 2014). Participants also started implementing actions individually such as picking polythene bags from rubbish pits or building energy saving stoves. Some communities engaged in collective actions, such as creating a pit for the local abattoir or moving the car washing bay away from the river bank. Certain failures were also observed, like in one area where a trench had been dug but not maintained, or in one community where one individual started a kitchen garden but mixed vegetables with many other species like trees and medicinal plants. These outcomes were monitored thanks to the M&E methods described in the next sections of this paper. By the end of AfroMaison project in May 2014, and therefore the end of
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

The intensive M&E, these outcomes had only been identified within the group of participants and in the area where the process was implemented. Causality of these outcomes could be partly attributed to the process thanks to a comparison with similar communities where the process did not take place.

The description of the Rwenzori case using context, process and outputs/outcomes descriptive variables is summarized in Figure 3.3. It corresponds to the description of the Rwenzori case using the COPP framework, as in Tables 2.1 to 2.3.

**Figure 3.3. Description of the Rwenzori case using context, process and outputs/outcomes descriptive variables**

<table>
<thead>
<tr>
<th>CONTEXT</th>
<th>MONITORING &amp; EVALUATION VIEWPOINT(S)</th>
<th>OUTPUTS / OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Descriptive</strong></td>
<td><strong>M&amp;E objectives</strong></td>
<td><strong>Main output</strong> = INRM plan for the Rwenzori region</td>
</tr>
<tr>
<td>Target system elements = Forests, wetlands, water, livelihoods</td>
<td>[For evaluators] evaluate the institutional and organizational changes and identify their drivers</td>
<td></td>
</tr>
<tr>
<td>Levels of governance influencing target system elements = Macro: parliamentarians &amp; ministers, meso: Rwenzori region districts, micro: villages</td>
<td>[For participants] (i) obtain a reflexive understanding of the process and its outcomes, (ii) make their progress and results visible, and (iii) prepare the future M&amp;E of plan implementation</td>
<td></td>
</tr>
<tr>
<td>Previous intervention attempts = Few</td>
<td><strong>Impact on participants</strong> =</td>
<td></td>
</tr>
<tr>
<td>Preexisting relationships = Good pre-existing relationships &amp; trust</td>
<td>✓ Improved understanding of target system elements</td>
<td></td>
</tr>
<tr>
<td>Participants’ understanding of target system elements = The majority of participants state they do not understand target system elements</td>
<td>✓ Capacity-building</td>
<td></td>
</tr>
<tr>
<td><strong>PARTICIPATORY PLANNING PROCESS</strong></td>
<td>✓ Increased collaboration, trust, networking, relationship building</td>
<td></td>
</tr>
<tr>
<td><strong>Descriptive</strong></td>
<td><strong>Actions implemented by participants</strong> =</td>
<td></td>
</tr>
<tr>
<td>Participatory process objectives = ✓ Improve participants’ understanding</td>
<td>✓ Individual actions (e.g. picking polythene bags from rubbish pits, building energy saving stoves)</td>
<td></td>
</tr>
<tr>
<td>✓ Produce an integrated plan and foster participants’ ownership and consensus over this plan</td>
<td>✓ Collective actions (e.g. creating a pit for the local abattoir, moving the washing bay away from the river bank)</td>
<td></td>
</tr>
<tr>
<td>✓ Create favorable conditions to implement the plan and manage natural resources</td>
<td><strong>Social scales of the outcomes</strong> = Only within the groups involved in the process</td>
<td></td>
</tr>
<tr>
<td>Instigators of the process = European Commission and community universities</td>
<td><strong>Spatial extent of the outcomes</strong> = Only in the area where the process was implemented</td>
<td></td>
</tr>
<tr>
<td>Facilitators = Researchers (community university, international research institutes)</td>
<td><strong>Timescales of the outcomes</strong> = Short-medium term</td>
<td></td>
</tr>
<tr>
<td>Origin of the facilitators = The majority of facilitators come from the area and/or are affected by the target system elements</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.4.2 Phase 2. Clarification of the M&E viewpoints and definition of the M&E objectives

M&E viewpoint

The application of the MEPPP framework continues with the clarification of the M&E viewpoints and the definition of the M&E objectives. The former consists in describing the position of the evaluators: who they are, what their relationship with facilitators and participants is and why they have taken part in the process. In the Rwenzori, evaluators included six of the nine facilitators (four from MMU and two from international research institutes, including a PhD student) and five key participants, as illustrated in Figure 3.4. The M&E process was adapted to account for the differential capacity of evaluators in carrying out the M&E task, the diversity of dialects, and variations in participants’ levels of literacy. This adaptation was done by training evaluators on M&E, involving local participants in the M&E and adapting M&E methods to local language and literacy conditions.

![Figure 3.4. Stakeholders in the Rwenzori case](image_url)
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

M&E Objectives

“Scoping” of the M&E (definition of M&E objectives and identification of analytical variables) was made based on a literature review, discussions among evaluators and on ten interviews carried out by the PhD student involved in the M&E. Interviewees were evaluators and key participants. Other M&E methods, used not to scope the M&E but to populate the variables, are introduced in a later section. A literature review is not necessary to identify analytical variables. The identification can also be done, for instance, by evaluators and participants only, through various participatory exercises such as problem tree, rich picturing, conceptual mapping, matrix ranking or focus group discussions (Oels, 2006). The choice of methods for variables’ identification depends on various factors such as the level of detail required, the resources available for the M&E and to what extent the M&E is participatory.

There were two main sets of M&E objectives in the Rwenzori. For evaluators, the M&E objectives were (i) to evaluate the institutional and organizational changes taking place among and beyond the group of participants and (ii) to identify the contextual and procedural drivers for those changes. For participants, the added-values of monitoring and evaluating the process were (i) to obtain a reflexive understanding of the participatory planning process and its outcomes (ii) to make their progress and results visible to themselves and higher policymakers and (iii) to set the scene for the future operational M&E of plan implementation and adaptation.

As highlighted in the previous section, the definition of the M&E objectives involves discussions and trade-offs. In the Rwenzori, a pre-existing M&E framework called ENCORE (Ferrand & Daniell, 2006; Ferrand, 2004 summarized in Daniell, 2012, p.65-66) was suggested in the frame of AfroMaison which oriented the definition of the M&E objectives. The M&E objectives agreed upon may be related to the objectives of the process and aim at assessing its relevance, effectiveness or efficiency, but can also target a specific objectives. In the Rwenzori, participants’ M&E objectives were, to some extent, related to the objectives of the process, but evaluators’ objectives, focusing on institutional and organizational changes, were quite different. Differences between both sets of objectives needed to be made clear in the mind of evaluators.

The terms included in the M&E objectives also need to be clearly defined. In the Rwenzori, organizations were considered as body of agents or groups of individuals such as political parties, the Senate, firms, sports clubs or schools (based on North, 1990). Institutions were defined as the normative and cognitive frames, formal or informal, to which stakeholders refer – individually or
collectively – within collective actions and which survive and duplicate with no particular mobilization (based on Lascoumes & Le Galès, 2007).

3.4.3 Phase 3. Identification of the analytical variables

Outputs/outcomes

As both M&E sets of objectives have a strong focus on outcomes, we start by identifying analytical variables within this cluster. One question guides the identification of outcome variables: what are the outputs/outcomes we want to monitor and evaluate and how can they be characterized in the area of focus? In the Rwenzori case, for evaluators, this question translates into: what are the various forms of institutions and organizations existing in the Rwenzori region and how could change in those be characterized? For participants, it is: what outputs and outcomes are expected from the process?

A first literature review allowed to identify what was meant by institutions, organizations, institutional and organizational change in the frame of AfroMaison project. Characteristics of institutions, organizations, institutional and organizational change thereby identified correspond to outcome variables to be included in the framework. For instance, organizational changes were defined in terms of “new groups of stakeholders created”, such as water users associations. But it was also defined in terms of changes in existing organizations, which could be assessed through the variables “changes in relationship among stakeholders”, “social learning” and “authority”. Finally, organizational changes did not necessarily mean the creation of a formal group, but could be defined by the repetition of informal meetings, measured by the variables “frequency of interactions” and “organizational identification”. A preliminary selection among variables was made based on the recurrence in the literature. The literature reviewed was in the field of institutional and organizational dynamics (e.g. Douglas, 1986; North, 1990; Scott, 2001), social-environmental systems (e.g. Folke et al., 2005; Herrfahrdt-Pähle & Pahl-Wostl, 2012) and policy-making, governance and policy assessment (e.g. Dovers & Hussey, 2013; Lankford, 2008; Sabatier, 1988). The initial AfroMaison M&E protocol, based on the ENCORE paradigm and its six dimensions: “External, Normative, Cognitive, Operational, Relational, Equity” (Ferrand & Daniell, 2006; Ferrand, 2004 summarized in Daniell, 2012, p.65-66) was also especially relevant. Literature focusing on the Rwenzori region was also of primary interest (Ojambo, 2012; Onyach-Olaa, 2003).
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

This literature review led to the identification of an initial list of outputs/outcomes variables. This initial list was then discussed among evaluators through informal discussions and with key participants through interviews. Involvement of participants at this stage also allowed the inclusion in the framework of outputs/outcomes analytical variables which were necessary to fulfil their own M&E objectives. For example, in order to “make their progress and results visible”, the four variables “expectations”, “commitments”, “innovative ideas/new decisions/agreements” and “behaviour/practices/actions” were included in the outputs/outcomes cluster of the framework. The resulting list of outcome variables, modified according to this new information, is shown in Figure 3.5.

Context

Identification of the context and process analytical variables followed a similar approach to that for the outputs/outcomes variables. The question guiding the identification of the context variables is: which contextual elements may play a role in the question which the M&E aims to investigate? For example for Rwenzori evaluators, this question translates into: what are the contextual aspects specifically impacting formal and informal institutional and organizational changes in the Rwenzori region?

A literature review was made of frameworks and papers suggesting explicit context variables to be included when assessing participatory planning processes. This review included Beierle and Cayford (2002), Beierle and Konisky (2000), Bellamy et al. (2001), Champion and Wilson (2010), Chess and Purcell (1999), Margerum (2002), Midgley et al. (2013), Ostrom (2005, 2009), Perez et al. (2011), Sabatier (1988) and Webler and Tuler (2002). Among the resulting list of context variables, only the ones on which the hypothesis “this variable has an influence on institutional and organizational outcome variables” had been made by the authors, were selected. This literature review was supplemented by documents focusing on the Rwenzori, a baseline study (Migongo-Bake & Catactutan, 2012) and a stakeholder analysis to identify the contextual aspects specifically impacting institutional and organizational changes in the Rwenzori region.

This literature review led to the identification of an initial list of context variables. As per the outputs/outcomes variables, this initial list of context variables was discussed among evaluators and with key participants through informal discussions and interviews. Questions asked focused both on triggering and hindering factors to institutional change, the latter examining for instance the whys and wherefores of institutional inertia in the Rwenzori. No additional context analytical variables were
added by the participants to fulfil their own M&E objectives as their focus was more on the process and outputs/outcomes aspects than on contextual ones.

The discussions among evaluators, the interviews and the local literature review allowed the context variables potentially influencing formal institutional and organizational changes, such as new laws or emerging groups, to be identified. Informal changes, however, are less tangible and more difficult to comprehend, and therefore identification of the contextual variables influencing them was more challenging. In order to tackle this challenge, a “life history” method was used. A key participant was asked to tell the story of the creation of an informal organization in the region in which he had taken part a few years before, the Tooro Botanical Garden. Not long before the life history did the Tooro Botanical Garden become a “formal” organization, adopting the status of non-governmental organization and supported by formal institutions, namely a registration at the Botanic Gardens Conservation International agenda. Analysis of the history allowed the evaluator to identify the contextual elements which caused the emergence of the Tooro Botanical Garden informal organization and its transformation into a formal organization. These elements were integrated in the framework as contextual variables potentially impacting institutional and organizational change in the Rwenzori region, as shown in Figure 3.5.

**Process**

As mentioned in the previous section, identification of the process variables followed a similar approach to that for the outputs/outcomes and context variables. The question guiding the identification of process variables is: which aspects of the process may play a role in the question which the M&E aims to investigate? For example for Rwenzori evaluators, this question translates into: which aspects of the process are the most significant in terms of producing institutional changes and why? Or, at the opposite, which aspects could impede institutional change?

aspects such as transparency, representativeness or effectiveness. But, in the Rwenzori case, only the
process variables potentially impacting institutional and organizational changes were chosen.

This initial list of variables was discussed among evaluators and with the key participants interviewed.
Interviewees who had already been involved in participatory planning processes before were asked
which aspects of the process they had found were the most significant in terms of producing changes
and why. Few other participatory planning processes had been implemented in the past at the meso
scale in the Rwenzori. Therefore identifying process variables was challenging for some of the
interviewees. With them, questions revolved around the governmental planning process, which is
supposed to be participatory but is hindered by many procedural factors. Identification of those
factors was a great source of information for identifying our list of process variables. “Access to
information and expertise”, “legitimacy/credibility”, “timing of involvement of the various
participants” and “transparency” were considered by these interviewees as variables which had
prevented the governmental planning process from generating further institutional and organizational
changes. Some interviewees had also been involved in participatory processes, other than planning,
and triggered by regional civil society organizations. Regarding the M&E of the process, participants
were mainly interested in descriptive variables which could allow them to “obtain a reflexive
understanding of the process”, for example who the participants were, what were the main
participatory planning phases, how the participants were selected or the number of events. Only one
process analytical variable, “representativeness”, was of interest to their M&E objectives.

These experiences led to a second selection of process analytical variables, illustrated in Figure 3.5.
The analytical variables added by participants to fulfil their own M&E objectives appear in grey in
Figure 3.5.
3.4.4 Phase 4. Development of the M&E methods to inform the descriptive and analytical variables

The concrete implementation of this framework on the ground goes through the development and use of various M&E methods to inform both descriptive and analytical variables (see chapter 4). Data collected thanks to the M&E methods is then analysed and M&E results shared (phases 4 to 6 of the MEPPPP framework).
M&E methods were therefore set up to populate the variables before, during (on a daily basis as well as during specific workshops) and after the participatory process. Before the beginning of the process, a baseline of the situation was established indicating the baseline value of the context and outcome variables before the process. Two focus groups and thirteen preliminary open qualitative interviews were carried out with farmers, government and civil society representatives. Results were summarized in two baseline studies and a stakeholder analysis (Migongo-Bake & Catactutan, 2012; Montserrat, Cruz, & Anderson, 2013). These added to the literature review and ten interviews carried out for the scoping of the M&E mentioned in the previous section.

During the 16 months of the participatory process, a “logbook” (based on Etienne, 2011) was filled in by evaluators on a daily basis recording all interventions, sessions, interactions, events and other external or contextual factors, whether environmental, relational, socio-economic, or political, taking place in the area. Each workshop was also monitored using attendance lists, participants’ expectations, pictures and videos, participant observation and questionnaires. A total of 612 questionnaires were completed by participants across the meso and local workshops. 44 interviews were undertaken by evaluators at various stages of the process. Interviewees were facilitators, participants, non-participants living in similar conditions than the participants (for comparison between areas with and without the process) and non-participants who are participants’ relatives (friends, family and colleagues - to monitor the impacts of the process outside of the group considered). Selection of interviewees within these groups was made using purposive and snowball sampling techniques, while trying to balance conditions in terms of gender, geographical provenance and profession.

Variables were formulated into questions or items included in the M&E methods. Each variable was populated by at least two M&E methods. For example, the variable “learning about the social-environmental system” became the question “Did you learn about natural resource management in the Rwenzori region?” in the questionnaire. It was also populated through participant observation, with evaluators writing down participants’ comments such as “I didn’t know that banana growing produce pollution”. When debriefing, facilitators were also asked to summarized the topics they had discussed with participants, to identify potential learning.

The data collected with these M&E methods was transcribed by evaluators immediately after collection. Transcripts were qualitatively analysed to identify the presence of the variables, or codes, listed in the preliminary framework (Figure 3.5). All the data which did not correspond to any of these
variables was assigned a new code, corresponding to “surprises” or variables which emerged during the analysis and had not been envisioned in the preliminary M&E framework. Coding was therefore made following both an inductive and a deductive process (Fereday & Muir-Cochrane, 2006). Data collected through attendance lists, expectations, and Likert scale items in the questionnaires was analysed quantitatively. For further details on the M&E methods used in the Rwenzori case, see section 4.4.4.

3.4.5 Phases 5 and 6. Analysis of the data collected and sharing of the M&E results

At the end of the participatory planning process and once all the data had been coded into variables, links among variables were established following a causal cluster approach (Young, 2008) and using the process tracing method (George & Bennett, 2005) (see chapter 6). Based on the outcome analytical variables selected, the main institutional and organizational changes taking place in the Rwenzori case were identified. These were:

- **Social learning (informal organizational change):** before the beginning of the process, some participants believed that stakeholders managing conservation areas served the interests of foreigners (Kabaseke, 2012) or rich people were the primary responsible for pollution. During the process, these perceptions could be discussed and questionnaires and interviews revealed that relationships among participants changed as a result.

- **Endorsement of the plan by the Rwenzori Regional Development Framework – RRDF (formal institutional emergence):** in May 2014, the Rwenzori INRM plan which resulted from the participatory planning process was endorsed by the RRDF, a coalition of regional civil society organizations and other public and private stakeholders.

- **Integration of MMU in the environmental cluster of the RRDF (formal organizational change).** The RRDF includes four clusters, each with a “cluster host” and including different groups. Since most members of the environmental cluster were participants in the AfroMaison process and since the RRDF was planning to endorse the Rwenzori INRM plan, it became obvious that MMU should become a member of the RRDF.

For each of these changes, clusters of causal context and process analytical variables were identified, as in the scheme illustrated in Figure 3.6. This identification followed the process tracing method (George & Bennett, 2005). The risk of depicting the MEPPP framework in three separate clusters is for researchers and practitioners willing to use the framework to be tempted to draw individual arrows...
between the context, process and outputs/outcomes variables in each of those clusters. This illustrative choice was made for a clarity purpose only. In fact, these three clusters are intrinsically linked. Indeed, the MEPPP framework should not be used to establish simple and direct links between individual variables in each cluster. The “blurred boundaries” between the context, process and outputs/outcomes clusters constitute one of the reasons why such causal chains cannot be established. Our solution to this risk is to encourage the adoption of a complex systems perspective when analysing the data. Following Young (2008), we argue that rather than trying to assign weight to individual variables as determinants of collective outcomes (causal chain approach), we try to understand the impacts of a number of interacting variables (causal clusters approach). In the Rwenzori, we look at the concurrent influence of multiple context and process causes triggering or hindering institutional and organizational change. Variables on the left of Figure 3.6 cannot be analysed independently. For further detail on the data analysis phase, see section 4.4.5 and chapter 6.

![Diagram](attachment:Figure_3.6.png)

**Figure 3.6. Example of causal relationships established for the Rwenzori case when analysing the data collected through the MEPPP framework (C = Context, P = Process, O = Outputs/Outcomes, see also section 6.5.1.2)**

Descriptive variables were used to decipher the dynamics observed. For instance, “power issues” was identified as a strong component in social learning. Based on descriptive variables, influential participants who would take the lead in the discussions could be identified, and their influence on and relationships with other participants could be established.
Some of the causal analytical variables had been identified in the preliminary framework (in white in Figure 3.6). Others had not been identified as potentially impacting institutional and organizational changes (in grey in Figure 3.6) and were revealed as “surprises” thanks to the deductive coding.

Based on this analysis, it could be concluded that the participatory planning process was one among other drivers of institutional change (see chapter 5). Several process variables were found to have a specific impact on institutional and organizational changes when allied with particular contextual variables: the role of champions, specific tools such as the role-playing-game and specific stages of the process like problem framing (see chapter 6). This informed the evaluators’ M&E objectives.

Regarding the M&E objectives pursued by participants, the assessment of the process highlighted specific outputs and outcomes of the intervention which could be used as examples to reach higher policymakers. These outcomes included changes of practices both at individual level and collective level, described in section 3.4.1 of this paper. M&E results were shared with participants, facilitators and external stakeholders through posters, presentations, reports, policy-briefs and scientific papers (see section 4.4.6).

### 3.5 Discussion: strengths and weaknesses of the MEPPP framework

The results and application of the MEPPP framework to the Rwenzori case illustrate some of the strengths and limitations of the MEPPP framework.

The first strength of the MEPPP framework is to guide evaluators in the M&E of participatory planning processes through a six-phase process. Specific guidance is provided for two of the most strategic phases for which few guidelines exist in the literature explaining concretely how to handle them: the definition of the M&E objective(s) and the identification of the analytical variables (phases 2 and 3). Regarding the definition of M&E objectives, we acknowledge the subjectivity of the M&E task and suggest as a solution the transparency of the M&E objective(s), evaluators’ position and methods used. Regarding the identification of analytical variables, three questions were outlined which may guide evaluators:

- For context variables: Which contextual elements may play a role in the question which the M&E aims to investigate?
The MEPPP framework: a framework for monitoring and evaluating participatory planning processes

- For process variables: Which aspects of the process may play a role in the question which the M&E aims to investigate?
- For outcome variables: What are the outputs we want to monitor and evaluate and how can they be characterized in the area of focus?

The second strength of the MEPPP framework is that it is both top-down or deductive and bottom-up or inductive. In the Rwenzori, answer to the three above questions was initially sought in the literature, including context-specific literature focusing on the Rwenzori. The preliminary lists of variables thereby identified were then discussed among evaluators and with key participants through informal discussions and interviews. As such, the suggested MEPPP framework is both top-down or deductive, in that the selection of variables is partly based on existing literature, and bottom-up or inductive, in that the selection of variables is partly based on participants’ goals and experiences (Chess & Purcell, 1999; Daniell, 2012).

The third strength of the MEPPP framework is that it is emergent, open to surprises, the “unexpected” and the “unknowable” (Levin-Rozalis, 2004). The use of inductive coding allows to identify variables which emerged during the analysis and had not been envisioned in the preliminary M&E framework. In other words, the MEPPP framework allows to capture innovative forms of action that may emerge from the process, many of which cannot be pre-formulated by the theory (Hatchuel, 2005). In the Rwenzori for example, the choice of the participatory tools used for planning was not considered as a process variable potentially impacting institutional change. However, the M&E of the process revealed that the role-playing game was actually key in favouring institutional change. This emergent approach to evaluation is advocated by many scholars (e.g. Jenkins & Bennett, 1999; Kelly & Vlaenderen, 1995).

The fourth strength of the MEPPP framework is also its main weakness. Its strength is to be both generally applicable, in the sense that it can be used across a range of cases, and specific, because it is adapted to the specificity of each case (Midgley et al., 2013). Its weakness is to require more resources and involvement of the evaluators than just following a guidebook off the shelf. Indeed, applying the MEPPP framework to other case studies involves replicating the six phases to adapt the framework to the specificity of the context, process and outcomes of the case under consideration. The MEPPP framework developed for the Rwenzori case (Figure 3.5) cannot be reused wholesale to assess another participatory planning process. Even if a second case had similar M&E objectives, these objectives would have to be discussed among evaluators and with participants. The terms included in the objectives may be defined in a different way, leading to different variables. The literature review
would not have to be repeated but the selection of variables based on this review and made through informal discussions, interviews, baseline study, stakeholders analysis and life history would probably lead to the prioritization of different variables. The resulting MEPPP framework would have a similar basis but certain dissimilar variables. As such, the MEPPP framework is both generally applicable, thanks to its potential to be replicated across a range of cases, and specific. We acknowledge that the use of the MEPPP framework requires more resources and involvement of the evaluators than just following a guidebook off the shelf. To overcome this limitation, the constitution of a shared library of cases using MEPPP may speed up its implementation. We have made a start in moving towards this by contacting researchers and practitioners engaged in participatory planning processes and willing to apply the MEPPP framework to their cases.

No other M&E process has been used on the Rwenzori case. The ENCORE framework was used as a basis to build the MEPPP framework but was not applied in its original form on the Rwenzori case. Hence, comparison of the MEPPP framework with other M&E processes may only take the form of a thought experiment. Much can be learned from the use of other M&E processes. Specifically, most existing processes are useful for assessing the effectiveness of participatory processes, that is, the extent to which process objectives have been met. However, based on the strengths highlighted in this paper, we argue that the MEPPP framework might be more relevant to monitor and evaluate participatory planning processes with other M&E objectives than assessing process effectiveness.

3.6 Conclusion

This paper started by demonstrating that the complexity of participatory planning processes required a specific framework for their evaluation. We suggested a framework dedicated to the monitoring and evaluation of participatory planning processes. The MEPPP framework is based on three context-process-outputs/outcomes clusters, each including both descriptive and analytical variables. In addition, MEPPP requires the M&E viewpoint(s) chosen to be made explicit. We applied this framework to one case, a participatory planning process in the Rwenzori region in Uganda. We suggest that this example can serve as a guideline for researchers and practitioners willing to monitor and evaluate a participatory planning process. We demonstrated that this framework was adapted to the complexity of participatory planning processes, by being both generally applicable and specific, inductive and deductive, and open to “surprises”. We acknowledged that the use of the MEPPP framework required resources and involvement of evaluators and called for the constitution of a shared library of cases to speed up its implementation.
Chapter 4 • Four challenges in selecting and implementing methods to monitor and evaluate participatory processes: example from the Rwenzori region, Uganda

Abstract

Participatory approaches are now increasingly recognized and used as an essential element of policies and programs, especially in regards to Natural Resource Management (NRM). Most practitioners, decision makers and researchers having adopted participatory approaches also acknowledge the need to monitor and evaluate such approaches in order to audit their effectiveness, support decision making or improve learning. Many manuals and frameworks exist on how to carry out monitoring and evaluation (M&E) for participatory processes. However, few provide guidelines on the selection and implementation of M&E methods, an aspect which is also often obscure in published studies, at the expense of the transparency, reliability and validity of the study. In this paper, we argue that the selection and implementation of M&E methods are particularly strategic when monitoring and evaluating a participatory process. We demonstrate that evaluators of participatory processes have to tackle a quadruple challenge when selecting and implementing methods: using mixed methods, both qualitative and quantitative; assessing the participatory process, its outcomes, and its context; taking into account both the theory and participants’ views; and being both rigorous and adaptive. The M&E of a participatory planning process in the Rwenzori region, Uganda, is used as an example to show how these challenges unfold on the ground and how they can be tackled. Based on this example, we conclude by providing tools and strategies that can be used by evaluators to ensure that they make utile, feasible, coherent, transparent and adaptive methodological choices when monitoring and evaluating participatory processes for NRM.

Key words

Context-fit; mixed methods; outcome-oriented evaluation; participant-based evaluation; theory-based evaluation; triangulation
Four challenges in selecting and implementing methods to monitor and evaluate participatory processes: example from the Rwenzori region, Uganda

4.1 Introduction

Participatory approaches are now increasingly recognized and used as an essential element of policies and programs, especially related to environmental or Natural Resource Management (NRM) (Dyer et al., 2014; Vacik et al., 2014). Participatory processes for NRM can be defined as the involvement of members of the public in agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for NRM (based on Rowe & Frewer, 2004). In the remainder of this paper, the term “participatory processes” refers to participatory processes in the field of NRM. Most practitioners, decision makers and researchers having adopted participatory processes also acknowledge the need to monitor and evaluate such processes (e.g. Conrad, Cassar, Christie, & Fazey, 2011). Monitoring and evaluation (M&E) is usually undertaken to audit the efficiency and effectiveness of the participatory process, support decisions about the process and learning and documenting experiences (Forss, 2005). Evaluators may be independent judges, participants in a process, evaluation experts or researchers.

M&E of NRM participatory processes pose specific challenges compared to both M&E of “non-participatory” processes and M&E of participatory processes in other fields. For example, participation of a wide range of stakeholders generates a multiplicity of perspectives and objectives in terms of what the M&E should entail, and how and when it should be carried out. In parallel, the complexity of social–ecological systems, which involve diverse actors and sectors, variable stressors, ambiguous cause-effect relationships, and continuous and non-linear changes, preclude the use of traditional approaches to evaluation (Faber & Alkemade, 2011).

Many of the challenges faced by evaluators when M&E participatory processes relate to the selection and implementation of M&E methods. M&E methods are defined here as the techniques or procedures used to obtain and collate raw data on the participatory process. These include, among others, document reviews, interviews, participant observation, questionnaires or modelling. The choice and implementation of methods are particularly strategic when monitoring and evaluating a participatory process. This is for various reasons:

- Methods chosen may impact the results of the study and its quality, validity, and credibility (Patton, 1999),
- There are no agreed-upon evaluation methods (Rosener, 1981) as evaluation of a participatory process is very context specific and therefore methods have to be context-sensitive (Blackstock et al., 2007),
M&E methods reflect the values and norms within the evaluation practice, they are the direct mirror of whether the evaluation is ethical (Laitinen, 2005).

It is therefore essential for evaluators to make informed choice when selecting and implementing M&E methods.

Many manuals exist on how to carry out M&E (Fitz-Gibbon & Lyons Morris, 1987; IDRC, 1997; The World Bank, 2004; UNDP, 2009). Many frameworks also exist to guide the M&E of participatory processes in general (Abelson et al., 2003; Rosener, 1981; Rowe & Frewer, 2000) and related to NRM specifically (Beierle & Konisky, 2000; Bellamy et al., 2001; Dyer et al., 2014; Webler, 1995). This literature is useful in terms of providing lists of variables to assess the effectiveness of participatory processes and guidelines on the various steps to follow. However, these manuals and frameworks are not helpful when it comes to choosing between M&E methods and implementing them (Forss, 2005, Annex 4.A1). As a result, many studies on participatory processes do not make the M&E methods used transparent (Frewer & Rowe, 2005) at the expense of the transparency, reliability and validity of the study.

The aim of our paper is to identify challenges that evaluators have to tackle when selecting and implementing methods to monitor and evaluate participatory processes (section 4.2) and to provide tools and strategies to address these challenges (section 4.4). The M&E of a participatory planning process in the Rwenzori region, Uganda, is used as an example to show how these challenges unfold on the ground and how they can be tackled (section 4.3).

### 4.2 A quadruple challenge for M&E methods

Four main debates relate to the M&E of participatory processes. They pose a quadruple challenge to the selection and implementation of M&E methods. These debates are between: 1/ qualitative and quantitative methods, 2/ process and outcome-oriented M&E, 3/ theory-based and participant-based M&E and 4/ static and adaptive M&E. By selecting and implementing M&E methods, practitioners, decision makers and researchers take a position among these debates. This position can impact the consideration given to the M&E results by the different stakeholders. Evaluators need to be aware of these debates and make their position transparent.
4.2.1 Qualitative and quantitative M&E methods

When selecting M&E methods, practitioners can choose among a range of possible methods. These methods are often categorized in two clusters: methods which are more quantitative in nature such as surveys or questionnaires and methods which are more qualitative in nature such as interviews or participant observation. A plethora of manuals or books exist which explain in detail how to implement qualitative or quantitative methods (e.g. Hennink, Hutter, & Bailey, 2010; Mack, Woodsong, MacQueen, Guest, & Namey, 2005; Maxim, 1999; Taylor, 2005). Even though some authors, like Blackstock et al. (2007) or Forss (2005, p.54) underline that “there is a trend towards qualitative methods as evaluation tasks become more complex”, other authors suggest that the distinction between the two “seems of limited relevance, as the qualitative and quantitative nature of data tends to merge in the course of a practical evaluation” (De Vaus, 2001 in Forss, 2005, p.59). Other authors still, suggest to build on this distinction and to use both qualitative and quantitative methods. This “methodological pluralism” is advocated, among others, by authors in mixed methods research (e.g. Brannen, 1992; Brewer & Hunter, 1989; Creswell, 2003; Teddlie & Tashakkori, 2009), public participation evaluation (e.g. Bamberger, 1990; Chess, 2000; Cook, 1997) and systems thinking (e.g. Cabrera et al., 2008). Rationale for this “methodological pluralism” is that multiple methods and triangulation of observation can contribute to methodological rigor in evaluation (Patton, 1987). It is especially relevant when neither qualitative nor quantitative methods alone are sufficient to monitor and evaluate the object under consideration (Teddlie & Tashakkori, 2009), as is the case for participatory processes. Based on these considerations, we too, suggest to use mixed methods when evaluating participatory processes. Creswell (2009) highlights that methodological challenges in using mixed methods, particularly in interventions and action research, has only started being addressed recently. Methodological challenges identified so far include, among others, validity aspects, ethical issues, prevalence of one type of method over the other and timing of integration (qualitative before quantitative, vice-versa or simultaneity) (Creswell, 2009; Greene, Benjamin, & Goodyear, 2001). Our study aims to contribute to this endeavour.

4.2.2 Process and outcome-oriented M&E

A second dichotomy is between monitoring and evaluating the outcomes of a participatory process and the process itself (Chess & Purcell, 1999; Rowe & Frewer, 2000). The former focuses on monitoring and evaluating the results in order to determine whether the participatory means are successful.
Results include, for example, better accepted decisions, consensus or education depending on the targeted objectives of the participatory process. The latter emphasizes the importance of the means – rather than the results – and looks at aspects such as fairness, information exchange, group process, and procedures (Chess & Purcell, 1999). While some authors advocate for the assessment of outcomes when monitoring and evaluating a participatory process (Beierle, 1999; Frewer & Rowe, 2005), many recognize that the process, along with other external factors, may have an influence on the outcomes and therefore needs to be considered (Chess & Purcell, 1999). Analysts who believe that both process and outcomes should be considered when monitoring and evaluating a participatory process belong to the “middle ground” (Carnes, Schweiter, Peelle, Wolfe, & Munro, 1996; IAP2, 2007; Rowe & Frewer, 2000). We adopt this “middle ground” approach. In order to take into account other possible external factors potentially impacting the process and outcomes, we also include a third cluster on the “context”. Extreme weather events, like droughts or floods for instance, can impact the process and its outcomes by modifying participants’ priorities and redefining their objectives. The importance of the “context” is often emphasized in the literature (e.g. Beierle & Cayford, 2002; McAllister, 1999; Midgley, 2007), but few authors detail how to assess it (for an example see Blackstock et al., 2007). Our study aims at bridging this gap.

4.2.3 Theory-based and participant-based M&E

Another division which often appears when it comes to monitor and evaluate participatory processes is between those who define evaluation criteria a priori, based on the literature, and those who consider that participants should have a say in the M&E design. Both approaches have advantages. Theory-based evaluation makes the M&E generally more consistent and eases the comparability of results through more systematic criteria and methods (Fiorino, 1990; Frewer & Rowe, 2005; Webler, 1995). Participant-based evaluation, on the other hand, may allow 1/ for greater trust between the evaluator and the respondent (Conrad et al., 2011), 2/ to build on participants’ knowledge of the context and therefore have methods which are more context-sensitive (Dietz & Stern, 2008), 3/ for greater learning since “those who learn most in the process of evaluation are those who actually do the job – who interview, process surveys, etc.” (Forss, 2005, p.48), and 4/ to capture the diversity of views about the M&E design, including the methods (Bellamy et al., 2001; Rowe et al., 2004). A “middle ground” exists in this division as well: certain authors recognize the possibility to combine both theoretical and participatory elements, for example by “deriving criteria from theory, and subsequently prioritizing these with the involvement of stakeholders” (Conrad et al., 2011, p.763; see
also Chess, 2000). If employed carefully, this approach allows to build on advantages of both approaches. However, we argue that this might be difficult to implement in practice. Indeed, if participatory M&E in itself can be challenging (Opondo, Sanginga, & Stroud, 2006), deconstructing theoretical assumptions and creatively designing and adapting new methods to each local situation with stakeholders can be even more difficult (Daniell, 2012; Matthews, 2004). Some practical and theoretical insights exist on how to combine both, such as Midgley’s “creative design of methods” (2000) or Scriven’s “goal-free evaluation” (1982), but they are few. In the former, Midgley suggests that different methods may be used to address people’s purposes for the intervention. These are determined based on a series of systemically interrelated questions defined jointly. Goal free evaluation, just as its name states, involves carrying out an evaluation without predetermined goal. Methods are chosen based on their ability to uncover the actual effects or outcomes of a process which are then compared with the actual needs of the participants. Our paper provides a concrete example of how both theoretical and participatory elements can be combined. In order to account for the multiplicity of viewpoints related to the M&E, our framework encourages to clarify the “M&E viewpoints”, including what the M&E objectives are, who the evaluators are and what methods are employed.

4.2.4 Static and adaptive M&E

Finally, a fourth debate is between an “old-fashioned” or static model of evaluation prevalent in the 1980’s and more adaptive, pluralist, collaborative models of evaluation which developed strongly since the 1990’s (Pollitt, 1999). In the static model, M&E is seen as independent and scientific and requires the strict comparison between the characteristics of an object (in our case a participatory process and its participants) in a point A in time (ex-ante) and the same characteristics of the same object in a point B in time (ex-post). An example of method to carry out a “static” M&E is Before After Control Impact (BACI) analysis (Smith, Orvos, & Cairns, 1993). This model does not cater for any modification of the variables or the methods used while the M&E is running. The adaptive evaluation model encompasses various approaches: empowerment evaluation (Fetterman, Kaftarian, & Wandersman, 1996), fourth generation evaluation (Lincoln & Guba, 1989), critical evaluation (Everitt, 1996), utilization-focused evaluation (Patton, 1997), pluralist evaluation (Duran, Monnier, & Smith, 1995), systemic evaluation (Boyd et al., 2007), systematic evaluation (Rossi et al., 1999) and democratic evaluation (Floc’hlay & Plottu, 1998). One common element among these approaches and a determinant of the adaptive model is “an agreement that active participation by major stakeholders
is fundamental to good evaluation practice” (Pollitt, 1999, p.79) and that the M&E design and methods can, or should, to a certain extent, be adaptive “on the way”. The latter element is based on the assumption that surprises may emerge in the course of the participatory process which the evaluators may not have expected and which might be “more interesting than ascertaining whether targets were met or analysing how a project was implemented” (Forss, 2005, p.48). Evaluators must then be equipped with adequate methods to capture or discover the “unknowable”. Following Chess (2000), we suggest that monitoring and evaluating change requires a rigorous comparison of the same object at two points in time but that the methods used should at the same time be adaptive to be able to capture the unexpected. Yet few theoretical or empirical sources explain how to do that. Our study aims at providing guidelines in that respect.

In summary, we argue that evaluators of participatory processes have to tackle a quadruple challenge when selecting and implementing M&E methods:

- Using mixed methods, both qualitative and quantitative,
- Assessing the participatory process, its outcomes, and its context,
- Taking into account both theory and participants’ views,
- Being rigorous and adaptive.

These four challenges are strongly interconnected. For example, theory-based M&E is often associated with static M&E or outcome-oriented M&E with adaptive M&E. As highlighted by Chess (2000, p.779), “as the field of social evaluation has matured, many of the dichotomies have become blurred”. While acknowledging this interconnectedness and blurredness, we argue that practitioners, decision makers and researchers need to recognize these challenges in order to make their position and methodological choices more transparent.

But tackling this quadruple challenge on the ground can be particularly difficult for practitioners willing to monitor and evaluate participatory processes. In section 4.3, we take the example of the M&E of a participatory planning process in the Rwenzori region, Uganda, to show how these challenges unfold on the ground and how they can be tackled.
Four challenges in selecting and implementing methods to monitor and evaluate participatory processes: example from the Rwenzori region, Uganda

4.3 Example of the M&E of the Rwenzori participatory planning process in Uganda

The Rwenzori is a mountain range located in western Uganda, at the border with the Democratic Republic of Congo. In 2010, a group of researchers from Mountains of the Moon community University, based in the Rwenzori, answered a call from the European Union to participate in a project called AfroMaison. AfroMaison’s objective was to "contribute to bringing the concept of Integrated Natural Resources Management (INRM) into practice at the meso-scale" (AfroMaison, 2010, p.6). Part of this project was dedicated to the proposal and the validation of INRM plans actively engaging concerned stakeholders (see section 4.3.1).

A framework was developed to monitor and evaluate the Rwenzori participatory process. The framework is based on three main clusters: context, process, and outputs, outcomes and impacts (see Figure 4.1 and chapter 3 for a detailed description of the framework development and implementation).

The application of this framework involves six phases:

1. Description of the case,
2. Clarification of the M&E viewpoint(s) and definition of the M&E objective(s),
3. Identification of the context, process and outcomes analytical variables based on the M&E objective(s),
4. Development of the M&E methods to inform the variables and data collection,
5. Analysis of the data collected in order to inform the M&E objective(s),

Sections 4.3.1 to 4.3.6 detail the application of these six phases on the Rwenzori case. We specifically emphasize on the method-related phase of the framework (phase 4) to identify challenges in selecting and implementing M&E methods.
**4.3.1 Phase 1. Description of the case**

The Rwenzori case study site covers 14,000 km² over seven districts and a population of about 2.4 million people. The main social and environmental issues in the area include massive deforestation and overexploitation of land and natural resources, including wetland encroachment, intensification of agriculture and pollution and depletion of freshwater resources. Regular food shortages and diseases outbreaks occur, adding to the burden of a population which is already partly below the poverty line.

The participatory planning process developed to address these social and environmental issues was adapted from the AquaStress project (Ferrand et al. 2006) and comprised six phases:

1. Procedural agreement,
2. Evaluation and identification of long-term common objectives,
3. Action proposal,
4. Selection and integration of actions,
5. Test of the plan using participatory simulation tools (role-playing games),
6. Implementation plan.

This process was first implemented at the scale of the Rwenzori region, or meso scale, encompassing seven districts, with a group of about 30 stakeholders through a series of four workshops over a period of 16 months, from April 2012 to July 2013. The group included representatives of the civil society, local governments, the private sector and universities. The process was then extended to the local scale, with 35 groups of about 16 farmers each, in different communities throughout the region. Each group participated in seven to eight workshops.

**4.3.2 Phase 2. Definition of the M&E viewpoints and objectives**

In the Rwenzori, the M&E team was composed of “international” evaluators, namely researchers and a PhD student from international research institutes, and “local” evaluators, including researchers from Mountains of the Moon University and key participants. Due to the wide extension of the process locally and a strong transfer posture, five “rapporteurs” were hired to monitor and evaluate the process at the local scale. Each originated from one of the five to eight communities which they were in charge of and therefore spoke the local dialects. All evaluators were “insiders” or “internal”
Four challenges in selecting and implementing methods to monitor and evaluate participatory processes: example from the Rwenzori region, Uganda

evaluators in the sense that they were involved in designing and implementing the participatory planning process.

There were two main sets of M&E objectives in the Rwenzori. For evaluators, the M&E objectives were (i) to evaluate the institutional and organizational changes taking place among and beyond the group of participants and (ii) to identify the contextual and procedural drivers for those changes. For participants, their objectives for being involved in the M&E process were (i) to obtain a reflexive understanding of the participatory planning process and its outcomes (ii) to make their progress and results visible to themselves and higher policymakers and (iii) to set the scene for the future operational M&E of plan implementation and adaptation.

The M&E objectives were defined before the first workshop, during the procedural agreement phase, through interviews carried out by the PhD student with evaluators and key participants. Following the interviews, the M&E objectives were refined through discussions and trade-offs among evaluators. In parallel, the words and concepts included in the M&E objectives, such as “institutional change” and “organizational change”, were also clearly defined.

4.3.3 Phase 3. Identification of the analytical variables

Still during the procedural agreement phase, an initial list of variables to be monitored and evaluated was established for each cluster, context, process and outcomes, based on a literature review. The objective here is not to provide a full account of the literature reviewed, which is described elsewhere (see chapter 3). This initial list of variables was then discussed with evaluators through informal discussions and with ten key participants through interviews. Involvement of participants at this stage allowed to ensure the context-specificity of the framework as well as to include analytical variables which were necessary to fulfil their own participants’ M&E objective. To ensure the context-specificity of the framework, this phase was supplemented by a document review on the Rwenzori, two baseline studies and a stakeholder analysis (see section 4.3.4).

The resulting M&E framework or list of variables for the M&E of the Rwenzori participatory planning process is illustrated in Figure 4.1. The analytical variables added by participants to fulfil their own M&E objectives appear in grey in Figure 4.1. Some of the variables in black, which had been identified through the literature, also contribute to the participants’ M&E objectives.
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4.3.4 Phase 4. Development of the M&E methods and data collection

The concrete implementation of this framework on the ground goes through the development and use of various M&E methods to inform the variables listed in Figure 4.1.

In practice, the four theoretical challenges highlighted in section 4.2 took the shape of two practical issues. The first issue relates to the geographical scale: the participatory planning process took place...
both at the meso and local scales in parallel, and extension to the local scale was not initially planned. This multiplicity of scales required M&E methods to be adapted “on the way” to local participants whose literacy level was low. It also required to include more evaluators in the M&E team since the original team was not large enough and did not have the skills, for example the dialect, to monitor the process in the 35 communities. The second issue relates to the timing of the M&E. On the one hand, the “static” evaluation of the participatory process requires an assessment of the situation *ex-ante* and *ex-post* as well as *punctually* during “key moments” of the process. “Key moments” are defined in the frame of participatory processes as moments when participants get together to work on a collaborative endeavour. In the Rwenzori case, key moments were the workshops. We argue that these moments are particularly important to monitor and evaluate because they are often at the origin of changes such as shifting viewpoints, perspective taking and decision making. On the other hand, the monitoring of the process also needs to track what is happening *permanently*, in between the workshops, which can be challenging because many decisions and actions might take place “behind closed doors” which are not accessible to evaluators. Several M&E methods were therefore selected and developed to monitor and evaluate the Rwenzori process at various points in time\(^\text{15}\) (see Figure 4.2): *ex-ante, punctual, permanent, ex-post, and long term*.

\(^{15}\) It would be tempting to associate *punctual and permanent* M&E with *formative evaluation* and *ex-post and long-term* M&E with *summative evaluation*. Based on Scriven (1991), we define *formative evaluation* as evaluation intended to improve the participatory process while *summative evaluation* implies some form of final judgment of the participatory process. However, following Chambers (1994), we argue that the distinction between *formative* and *summative* evaluation is more based on the objectives of the M&E and the use which is made of the data collected than on the timing of methods’ implementation.
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Figure 4.2. M&E methods used at various points in time in the Rwenzori case (M&E methods in black are the ones that are similar for both the meso and the local scales. M&E methods in grey are the M&E methods used for the meso scale and which were then adapted to the geographical extent and literacy conditions of the local scale)

Four main methods were used for the ex-ante M&E. They aimed primarily at establishing a baseline of the situation before the beginning of the process and to discuss the M&E objectives and variables with key participants. Two baseline studies were made to describe the baseline situation in the Rwenzori region and nationally including issues such as population, health, literacy, climate, vegetation, agricultural systems, social networks and NRM policies and institutions (Migongo-Bake & Catacutan, 2012; Montserrat et al., 2013). These studies were supplemented by a document review specifically focusing on the M&E aspects of interest, namely NRM institutions and organizations. The review included mainly an examination of secondary documentation, including local council reports, PhD and master dissertations, other project reports and local media. Ten preliminary open qualitative interviews were also made with key participants and evaluators. A stakeholder analysis was established based on the baseline study, document review and interviews.

The main permanent M&E method was a “logbook” on the model developed in Etienne (2011) meant to record all interventions, sessions, interactions, events and other external or contextual factors, whether environmental, relational, socio-economic, or political, taking place in the area. It took the
form of a computerized database whose entries were made by evaluators through a questionnaire available on a website. Information included in the logbook was based on the evaluators’ knowledge and observation and on primary documents, such as minutes of meetings, interview transcripts, email exchanges and local media. In total, 307 events were entered into the logbook, covering a period of four years between July 2010 and July 2014. As highlighted by Chess (2000, p.770) “One of the major difficulties of evaluating of environmental public participation programmes [...] is the lack of data collected as part of routine implementation”. He suggests for practitioners to “record data, using a computerized template to minimize reporting burden [...]. These data (e.g. numbers of participants at meetings, minutes of meetings and names of stakeholder groups, etc.) could provide a beginning for researchers’ evaluation of public participation efforts”. This is exactly what our logbook ought to do. Information included in the logbook was based on the evaluators’ knowledge and observation and on primary documents, such as minutes of meetings, interview transcripts, email exchanges and local media.

For the punctual M&E made during the workshops, various methods were developed (see Figure 4.2). These are attendance lists, pictures and videos, interviews, expectations, participant observation and questionnaires. For both the meso and the local scales, attendance at workshops was tracked by name thanks to attendance lists including information on gender, geographical provenance, profession and literacy. All sessions were photographed and some were partly filmed. Semi-structured interviews were conducted at the end of each workshop. They were made with facilitators, participants, non-participants living in similar conditions than the participants (for comparison between areas with and without the process) and non-participants who are participants’ relatives (friends, family and colleagues - to monitor the effects of the process outside of the group considered). Selection of interviewees within these groups was made using purposive and snowball sampling techniques, while trying to balance conditions in terms of gender, geographical provenance and profession. The list of questions used for the interviews is provided in Annex 4.1. Most of the 44 interviews were made by international evaluators. At the beginning of the workshops, participants enacted their expectations writing them on post-its or expressing them aloud during a round table or a video interview. At the end of each workshop, participants evaluated to what extent their expectations had been met using the same medium.

Two methods were used at the meso scale which were then adapted to the specific conditions of the local scale (in grey in Figure 4.2). These are: participant observation and questionnaires. Participant observation consisted in recording, during the workshops, interactions among participants, their
physical behaviour, mental states (e.g. joy, discontent), and changes in space (e.g. people entering or leaving the room) (based on DeWalt & DeWalt, 2002). At the meso scale, participant observation was made through “open” note-taking, with no guidance provided, by international evaluators and facilitators. At the local scale, the five rapporteurs were trained to participant observation. Since neither the rapporteurs nor the local facilitators were used to taking notes or debriefing workshops, guidance was provided to them respectively through a “rapporteur debriefing sheet” and a “facilitator debriefing sheet” (see Annexes 4.2 and 4.3). The sheets included open-ended questions describing the process and its outcomes. Questionnaires also differed between the meso and local scales to adapt to the low literacy level in the communities. At the meso scale, thorough questionnaires were distributed at the end of the workshops including aspects related to access to information, representativeness, transparency, fairness in expression, convenience, and scale (see Annex 4.4). These aspects were rated using a 5-point Likert scale and some were detailed through open questions. The questionnaires also included questions about the role-playing game used for participatory planning to allow evaluators and facilitators to get feedback about it and modify it accordingly. At the local scale, this questionnaire was simplified to a great extent to include only five questions related to the participants’ level of satisfaction, substantial learning, relational learning, innovation and creativity, and commitment for the future via a 5-point semantic differential scale. The questionnaire was designed such that it could be completed by an illiterate person without using a pen, by tearing notches (see Annex 4.5). In total, 137 questionnaires were collected across the four meso workshops and 475 across the local workshops. Rapporteurs were equipped with electronic tablets to take pictures of the workshops and of all the local M&E documents produced. This followed a request made by communities who were willing to keep their M&E documents to be able to track their progress. Rapporteurs then used the pictures of the documents to enter the data in an online database accessible by all evaluators.

The ex-post M&E method used was interviews based on the similar list of questions and interviewee selection process than for the punctual M&E (see Annex 4.1).

The long-term M&E is made by an evaluator using the logbook and with regular updates via email and telephone with facilitators and key participants. It lasts for a few months or years after the end of the process and looks at, in addition to the outcomes and impacts in the medium and long terms, the concepts of sustainability, viability and adaptation of the outcomes and impacts to further changing circumstances. As in many projects, the long-term M&E in the Ugandan case was constrained by the fact that AfroMaison project had ended and therefore that no more budget was available for the M&E.
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Figure 4.3 shows an example of the way in which variables were formulated into questions or items. Each variable was populated by at least two M&E methods.

**Figure 4.3. Example of the transformation of the “Learning about the social-environmental system” outcome (O) variable into questions and items in the M&E methods**

### 4.3.5 Phase 5. Analysis of the data collected

Data analysis was performed by the evaluators. Interviews, participant observations and questionnaires were transcribed after each workshop. Transcripts were qualitatively analysed to identify the presence of the variables, or codes, listed in the preliminary framework (Figure 4.1). All the data which did not correspond to any of these variables was assigned a new code, corresponding to “surprises” or variables which emerged during the analysis and had not been envisioned in the preliminary M&E framework. Some of the M&E methods used were deliberately open-ended enough to capture these “surprises”. These are the questionnaires, interviews and participant observation. For example, questions such as “what do you think of the planning process?” allowed to identify elements which played a role in the institutional changes under consideration and which had not been envisioned, neither by the literature, nor by participants. Coding was therefore made following both an inductive and a deductive process (Fereday & Muir-Cochrane, 2006). Five emerging process
variables or “surprises” were identified in such manner: the scale of the process, the use of role-playing games, and the strategic role played by the problem-framing phase, champions and facilitators (see chapter 6). These new variables were then added to the interview list of questions which were to be asked after the following workshop. Coded data were subsequently grouped into context, process and outcomes according to their nature.

Data could be triangulated thanks to the multiplicity of M&E methods used ensuring for each variable to be populated by at least two methods (see Table 4.1). Coding of the data collected by the rapporteurs, which was the most subject to misinterpretation, was triangulated by one international evaluator, one local evaluator and one rapporteur.

Some of the data was analysed quantitatively. This included data collected through attendance lists, expectations, Likert scale items in the thorough questionnaires and semantic differential scale items in the simple questionnaires. This quantitative analysis allowed to have a larger sample of answers on variables such as learning or fairness in expression. The best and lowest rated items were then investigated further through interviews.

4.3.6 Phase 6. Sharing of the M&E results

In the Ugandan case, results regarding the participants’ M&E objectives were mainly a description of the participatory planning process, including quantitative elements about the number of participants, their representativeness in terms of gender, geographical provenance and profession. The M&E also allowed gaining an understanding of the participants’ opinion about aspects of the process such as transparency, fairness in expression and legitimacy. The M&E results also encompassed a description of the main outputs and outcomes obtained through the process. The main output was the Rwenzori region INRM plan. However, the process also had “less tangible” outcomes such as learning, capacity-building, increased social capital and social learning. Participants also started implementing actions individually, such as picking polythene bags from rubbish pits or building energy saving stoves, or collectively, such as creating a pit for the local abattoir or moving the car washing bay away from the river bank. These results were presented through posters to communities and presentations during workshops to meso-scale participants. The latter were also provided with reports summarizing the main outputs and outcomes of the process. Policy-makers received a policy-brief. Presentations and
reports also included an overview of the M&E methods employed which could be used for the future operational M&E of plan implementation and adaptation.

Results regarding evaluators’ M&E objectives included the identification of the institutional and organizational changes taking place among and beyond the group of participants and of the contextual and procedural drivers for those changes. For this, two methods were used: the process-tracing method (George & Bennett, 2005) and the causal cluster approach (Young, 2008). The combination of those methods involved establishing links among clusters of contextual and procedural variables on the one hand and resulting institutional and organizational outcomes on the other. The objective here is not to give a full account of the analytical methods employed or the results obtained, which is provided elsewhere (see chapter 6). Rather, we provide an overview of the results and the communication means used to share these results to the various audiences targeted. In Uganda, three main institutional and organizational changes were identified and analysed using this data analysis technique: social learning, the endorsement of the plan by the Rwenzori Regional Development Framework (RRDF), which is a coalition of regional civil society organizations and other public and private stakeholders, and the integration of Mountains of the Moon University in the environmental cluster of the RRDF. These results were presented to the research community through peer-reviewed papers in scientific journals, conference presentations and project reports.

4.4 Discussion

In this section, we use the example of the Ugandan case to discuss how the four methodological challenges highlighted in section two can be tackled. We provide tools and strategies that can be used by evaluators to ensure that they make utile, feasible, coherent, transparent and adaptive methodological choices when monitoring and evaluating participatory processes for NRM.

4.4.1 Qualitative and quantitative M&E methods

Some of the M&E methods used were more quantitative in nature, such as questionnaires, attendance lists and Likert scales, while others were more qualitative in nature, such as interviews or participant observation. The multiplicity of methods used allowed triangulation of the data collected as each variable had to be populated by at least two different methods, as illustrated in Table 4.1.
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Using both qualitative and quantitative methods allowed a wider collection of data over content, time and space as well as a complementarity in the data collected (McLaughlin et al., 2001; Patton, 1999). For instance, using questionnaires allowed collecting information from all participants and regularly throughout the process when interviewing all of them regularly was not possible due to a lack of time or budget. However, these methods did not allow “surprises”, or elements that were not included in the initial M&E framework, to be easily captured. They were therefore usefully complemented with interviews and participant observation. These allowed more in-depth information - such as participants’ values, concerns and perceptions - and additional observations - such as the environment in which the interview takes place, the behaviour of the respondent, his/her hesitations or the presence of other people around - to be collected (Morgan, Atman, Bostrom, Fischhoff, & Lave, 1992). For in-depth discussions on the benefits and limitations of using mixed methods, see e.g. Bryman (2006), Forss (2005) and Johnson and Onwuegbuzie (2004).

We suggest that using a simple table, such as the one presented in Table 4.1, allows to check for the complementarity of the mixed methods used.

Table 1 can help evaluators to:

- Ensure that each analytical variable (on the left) is populated,
- Easily view which methods populates which variables,
- Make sure that each variable is populated by at least two methods (triangulation),
- Ensure that each analytical variable is “directly” monitored and evaluated (X) but also that “indirect” data is provided for this variable (O), and
- Easily view which methods provide quantitative data or qualitative data and therefore to easily identify where to find the data when undertaking their analysis.
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Table 4.1. Mixed methods and complementarity among them - Example of the Rwenzori process variables\(^{16}\) (X = “direct” M&E: data is collected directly, for e.g. through a direct question to participants, O = “indirect” M&E: no direct question on this variable but potentially addressed via an open question or item).

<table>
<thead>
<tr>
<th>ANALYTICAL VARIABLES</th>
<th>MONITORING &amp; EVALUATION METHODS</th>
<th>Quantitative data only</th>
<th>Qualitative and quantitative data</th>
<th>Qualitative data only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Attendance lists</td>
<td>Baseline studies</td>
<td>Logbook</td>
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<tr>
<td>Access to information and expertise</td>
<td></td>
<td>X</td>
<td>O</td>
<td>O</td>
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<tr>
<td>Representativeness</td>
<td></td>
<td>X</td>
<td>X</td>
<td>O</td>
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<tr>
<td>Independence</td>
<td></td>
<td>X</td>
<td></td>
<td>O</td>
</tr>
<tr>
<td>Legitimacy / credibility</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>Influence (impact)</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Transparency</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Time to make decisions / for questioning</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Timing of involvement of the various stakeholders</td>
<td></td>
<td>X</td>
<td></td>
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<td>Fairness in expression</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Convenience</td>
<td></td>
<td>X</td>
<td>X</td>
<td>O</td>
</tr>
<tr>
<td>Repetition of the process</td>
<td></td>
<td>X</td>
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<tr>
<td>Transferability</td>
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<tr>
<td>Scale</td>
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<td>X</td>
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<td>X</td>
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4.4.2 Process and outcome-oriented M&E

The M&E framework used to monitor and evaluate the Rwenzori case, and illustrated in Figure 4.1, is based on three main clusters. Therefore, not only does it allow to monitor and evaluate the process and its outcomes, but also the context in which these take place.

\(^{16}\) For concision purposes, only process variables were included in Table 4.1. A similar table can be drawn with context and outcome variables.
The remaining difficulty for the M&E methods lies in monitoring and evaluating the simultaneous multiple dynamics and feedbacks among these three clusters of variables, as illustrated by the arrows in Figure 4.1. Indeed, these variables may change simultaneously. Context is not monitored “before”, process “during” and outcomes “after”. All evolve concurrently. For instance, certain outcomes, such as social learning, may emerge as a result of existing social inequality issues (context variable) and early involvement of participants in the process (process variables) and may in turn create new relationships among participants (context variable) and increase the legitimacy of some participants in the remaining of the process (process variables).

We argue that adopting a “causal cluster” approach (Young, 2008) and the process-tracing method (George & Bennett, 2005), as explained in section 4.3.6, allows to cater for this complexity. For a detailed explanation on how to use these methods, see chapter 6.

4.4.3 Theory-based and participant-based M&E

Section 4.3.3 illustrated how the analytical variables were initially selected based on the theory and subsequently discussed and modified by evaluators and key participants involved in the M&E design (phase 3 of the M&E framework). However, other phases of the M&E were also based both on theory and on participants’ views, as shown in Table 4.2.

Table 4.2. M&E phases based on theory and/or on participants’ views
The description of the case (phase 1) was based on a review of the literature as well as on the evaluators’ and facilitators’ knowledge of the area. Evaluators coordinated the overall M&E process and were therefore involved in all phases. Definition of the M&E objectives (phase 2) was made based on interviews of evaluators and ten key participants (see section 4.3.2). To a certain extent, the evaluators’ M&E objectives, related to the monitoring of institutional changes, was also based on the literature as it had been identified by AfroMaison as a key study area, explaining the involvement of a PhD student in the investigation. The development of M&E methods (phase 4) was initially based on the literature, and then extensively reviewed by local evaluators to adapt it to the case context. Local evaluators also reformulated interview questions and questionnaire items for a greater understanding by respondents and selected the symbols to be used in the “simple” questionnaire. As primary users of the logbook, they advised on how to make it user friendly in a context where power cuts are frequent and internet unreliable. Facilitators were also involved in data collection as they distributed questionnaires and made participant observations of the workshops. Overall, the input of local evaluators and facilitators was of great value to maximize adaptability and transferability of the M&E methods. For phase 4, participants were involved as informants only. Data analysis and reporting (phases 5 and 6), were made by evaluators based on guidelines provided in the literature and through scientific publications. Facilitators contributed to share M&E results with participants.

Participatory M&E may not always be relevant. When it is, we suggest that the role of the various stakeholders, whether evaluators, facilitators or participants, in the six phases of the M&E process be made clear from the very beginning of the collaboration. As suggested by Chess (2000), participatory evaluation may increase available information, interest and usefulness but it raises issues that must be discussed explicitly, such as: who should be involved? Will those involved have influence on the evaluation? Will certain interest groups have undue power? A table like Table 4.2 can be useful to remind the roles and responsibilities of each and everyone in the M&E.

4.4.4 Static and adaptive M&E

The initial list of variables shown in Figure 4.2 was monitored and evaluated before, during and after the participatory process thanks to the various M&E methods, as presented in section 4.3.4. Although not specifically demonstrated here, a comparative method like Before After Control Impact (BACI) (Smith et al., 1993) can be used to develop a “static” ex-post comparison to reveal the changes in the system in the given period.
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In parallel, three strategies were used to ensure the adaptivity of the M&E methods used: interaction between data collection and data analysis to uncover “surprises”, “thinking theoretically” and reformulation “on the way” of the misunderstood or repetitive items. First, the iterative interaction between data collection and data analysis detailed in section 4.3.5 allowed the reliability and validity of the M&E results to be attained (Morse, Barrett, Mayan, Olson, & Spiers, 2002). It allowed not only “surprises” to be uncovered but also for variables emerging from data to be reconfirmed in new data, giving rise to new variables which, in turn, were verified in the data already collected. Variables and methods were therefore revised and modified iteratively during several cycles of data collection and analysis. This strategy, called “thinking theoretically”, is a second strategy highlighted by Morse et al. (2002) to ensure reliability and validity. The third strategy used to ensure the adaptivity of the M&E methods used is the reformulation “on the way” of the misunderstood or repetitive items. Following the data analysis of the first workshop, evaluators realized that some of the questionnaire items and some of the questions in the rapporteur and facilitator debriefing sheets had been misunderstood or considered repetitive by the respondents. These items were modified or reformulated, therefore leading to changes “on the way” to the M&E methods. For example the item “I think we’ll be able to make it” in the Likert scale was replaced by “do you think that you will be able to implement the actions that were suggested during the workshop?” Some changes made to the M&E methods “on the way” were also required by changes occurring in the participatory process itself. For instance, when the process was extended to local communities, the questionnaire and participant observation methods normally used with meso-scale participants had to be modified to cater for the low literacy level in local communities.

These three strategies all contributed to address the staticity and adaptivity challenge. They illustrates that the implementation of a framework for monitoring and evaluating a participatory process is not linear but is rather an iterative dynamic among the six M&E phases to adapt to the complexity and uncertainty of the system under study.
4.5 Conclusion

This paper is based on the acknowledgement that participatory processes are increasingly used in NRM policies and programs and that these processes need to be monitored and evaluated in order to audit their effectiveness, make more informed decisions in the future or improve our learning based on their experience. We suggested that the M&E methods’ selection and implementation is particularly strategic and yet often obscure in published studies. The example of the M&E of a participatory planning process in the Rwenzori region, Uganda, was used as an example to illustrate how the four challenges in methods’ selection and implementation could be tackled. For the qualitative/quantitative challenge, we suggested the use of a table to check the complementarity and coherence among the M&E methods used (e.g. Table 4.1). For the process/outcomes challenge, we recommended the adoption of a causal cluster approach (Young, 2008) and the process-tracing method (George & Bennett, 2005) in order to cater for the complexity of the system under consideration and to identify the causal relationships among the context, process and outcome variables. For the theory/participant-based challenge, we identified that clarifying the roles and responsibilities of the various stakeholders in the six phases of the M&E process was beneficial and that it could be made transparent through a simple table (e.g. Table 4.2). For the static/adaptive challenge, we suggested that an initial list of variables be evaluated before, during and after the participatory process to allow for a “static” ex-post comparison, while keeping some of the M&E methods adaptive to required changes “on the way” and open to “surprises”, that is to variables which may emerge from the ongoing data analysis. We demonstrated that the implementation of a framework for monitoring and evaluating a participatory process is not linear but is rather an iterative dynamic among the six M&E phases to adapt to the complexity and uncertainty of the system under study. Our final thought relates to the time and effort required to monitor and evaluate a participatory process. Undeniably, a well-thought M&E requires more time and resources than simply applying a ready-made formula. However, the extent of the M&E, illustrated by the number of variables and methods, should always be adapted to the M&E objectives and to the resources available, not the other way around. In the Rwenzori example, part of the AfroMaison project was dedicated to researching M&E methods, illustrated by the presence of international evaluators and a PhD student among the M&E team. This paper is one of the outcomes. But the Rwenzori should by no means be considered as illustrative of the extent of participatory processes M&Es. It is up to evaluators of each process to find their own balance between comprehensiveness and feasibility.
Annex 4.1 • List of questions used for the interviews

WHO? Participants to the workshops
OBJECTIVE = have their opinion about the participatory planning process and its outputs/outcomes

<table>
<thead>
<tr>
<th>Note to interviewer: don’t forget, for each interviewee:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Organization (if any)</td>
</tr>
<tr>
<td>Contact (phone number)</td>
</tr>
</tbody>
</table>

Before the beginning of the interview:

Explain to the interviewee why you want to interview him/her (objective).

Explain that the interview will last for about one hour. If he/she has less time, prioritize the questions depending on whom you are interviewing.

Outline briefly the structure of the interview. Show the interviewee the list of questions if he/she asks for it.

Ask for his/her consent to record the interview. Remind him/her that he/she can ask for the recorder to be stopped at any time. Remind him/her about this again during the interview if you see that the interviewee is uncomfortable to speak on record.

Tell him/her that his/her responses will remain anonymous.

Ask him/her if he/she has any questions before starting the interview.

1/ THE PARTICIPATORY PLANNING PROCESS, ITS METHODS AND MAIN OUTPUTS

What do you think of the planning process?

Do you think that the right participants were there? Are there people who should have participated in the game/workshop but did not? If so, who should have been included?

Are certain people over represented, are some people unable to voice their opinions, are some people excluded from the process etc.?

Do you think that your point of view has been well taken into account by other participants?

Do you think that the game is a good tool for making plans about natural resources?

What do you think about the plan developed during the workshop?

2/ MOTIVATIONS FOR PARTICIPATING/LEVEL OF PARTICIPATION

Have you participated in natural resources planning and implementation processes before? Which ones? What did you do, how did you participate?

Why did you participate in these workshops?

Would you like to be more involved in natural resources planning and implementation in the future? If so, how?

3/ DIFFICULTIES AND SUCCESSES

What are the difficulties and successes you experienced in the planning process/the workshop?

What do you think are the objectives of these workshops?
Four challenges in selecting and implementing methods to monitor and evaluate participatory processes: example from the Rwenzori region, Uganda

Do you think the workshop achieves these objectives? How/Why? (Weaknesses, difficulties, successes...)

Do you think that it will be possible to implement the plan?

What challenges do you think could occur in the implementation of the plan?

How could these challenges be overcome?

4/ IMPACTS/OUTCOMES

(Don’t ask these questions to participants who have participated only in the third workshop)

BETWEEN THE FIRST WORKSHOP AND NOW:

What actual positive and negative impacts have you observed so far? For you individually? For your community?

Did you learn about natural resource management in the Rwenzori region?

Did you learn about planning and plan implementation?

Did you learn something about the challenges facing your neighbours/other stakeholders?

Did you implement any new activity to preserve the environment or change your current activities?? Which ones? You individually? With your community/organization?

Did you meet to discuss about the environment?

Did you decide about new rules/norms/agreements/byelaws concerning the environment and/or the people or change existing ones?

Were there any new groups or associations for natural resource management formed?

Did the workshops change your relationships with other people? (Trust, conflict...)

Make sure that people talk about things that have been implemented (not things that they want to implement)

Make sure that people talk about things that happened after the process (and not things that existed already before)

IN THE FUTURE:

What positive and negative impacts do you expect to see in the future? For you individually/for your community?

Same questions than above but for future impacts.

How will you share this experience with other people? With whom? When? Where?

Are there any other comments you would like to add?

THANK YOU!
Annex 4.2 • “Rapporteur debriefing sheet” used to guide evaluators in their participant observation of the local process

| Place: | Number of participants: |
| Date: | Gender: |
| Rapporteur’s name: | ...... women ...... men |
| Local facilitator’s name: | ...... adults ...... children |

### INTRODUCTION
Does the facilitator talk about:

- [ ] How the participants were selected
- [ ] Why they are here (the objectives)
- [ ] What is expected from this meeting (the expected outcomes)
- [ ] The various steps
- [ ] The role of the various stakeholders in the process (himself, you, SATNET, MMU, AfroMaison)
- [ ] How decisions are being made, the rules and mechanisms
- [ ] The interactions among the participants (who will interact with whom and how)
- [ ] The monitoring and evaluation (objectives, methods and feedback)

### GAME

<table>
<thead>
<tr>
<th>OBSERVE</th>
<th>LISTEN</th>
<th>FEEL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>People arriving or leaving, modification of space, time when nobody speaks...</td>
<td>What comments do the participants make about:</td>
<td>Attitudes of the participants (happiness, laugh, discontent, conflicts, they lean towards the game, sit backward, etc.):</td>
</tr>
</tbody>
</table>

The **game** and its processing rules:

Their **current actions** (what they are doing now) and **alternative actions** (what they could do in the future) **(list concrete actions):**

AfroMaison, SATNET, MMU and other local, regional or national organizations and institutions:

Environmental issues and natural resources:

Requests and demands of the participants:

Do the participants have enough time to make decisions and think about actions?

Were they creative? Did they suggest innovative ideas? Which ones?

Other comments:
### DEBRIEFING

<table>
<thead>
<tr>
<th><strong>OBSERVE</strong></th>
<th><strong>LISTEN</strong></th>
<th><strong>FEEL:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>People arriving or leaving, modification of space, time when nobody speaks...</td>
<td>What comments do the participants make about:</td>
<td>Attitudes of the participants (happiness, laugh, discontent, conflicts, they lean towards the game, sit backward, etc.)</td>
</tr>
</tbody>
</table>

- The **game** and its processing rules:
- Their **current actions** (what they are doing now) and **alternative actions** (what they could do in the future) (list concrete actions):
- AfroMaison, SATNET, MMU and other local, regional or national organizations and institutions:
- **Environmental issues and natural resources:**
- Requests and demands of the participants:

**DISCUSSION WITH THE FACILITATOR AFTER THE WORKSHOP**

- Did each participant have the opportunity to speak? (Did the facilitator make a round table?)
- Were there some participants who spoke more times or for a longer time? Who, about what and how long?

- **MpanGame and micro-MpanGame sessions:**
- **Discussions, meetings, workshops:**
- **Decisions taken, new rules/norms/agreements agreed upon concerning the natural resources and/or the people:**
- **New actions implemented, change in people’s behaviours:**
- **Changes in the relationships among people (trust, conflict...):**
- **Interaction with external stakeholders:**
- **About local, regional or national institutions and organizations:**
- **Other:**

**End time of the workshop:**
Annex 4.3 • “Facilitator debriefing sheet” used to guide facilitators in their participant observation of the local process

(To be filled in by the facilitator after each workshop)

Name of the facilitator: 
Number of participants: 
Date: 
Gender: ... women ... men
Location: 
Geographical origin (village, parish, district)
Length: ... hours/days

Describe the main process of the workshop (what did you do)?

Did you notice something surprising during the workshop? If yes, what?

Did you face any technical difficulties? If yes, which ones?

What questions or comments did the participants make?

To what extent did the game allow them to discuss about the impact of their actions on the environment?

To what extent did they learn about each other?

Was there any conflict/opposition during the workshop? (Describe it briefly)

What environmental topics did you discuss with the participants during the workshop (pollution, bio cleansing, deforestation, etc.)?

Did the participants suggest some new actions during the workshop? Which ones?

Do you think that the participants will implement some actions in their community? Which ones? Did they express commitments?

Did they propose other workshops or meetings using the game?

Yourself, are you satisfied with this workshop?

Why?
Annex 4.4 • Thorough questionnaires distributed at the end of each meso workshop

Evaluation of the workshop and future perspectives

Dear participant, thank you for taking part in this session. Could you please indicate hereafter your evaluation of the workshop? Thank you.

<table>
<thead>
<tr>
<th>About the workshop:</th>
<th>Not at all</th>
<th>Not so much</th>
<th>Quite</th>
<th>Much</th>
<th>Not concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did the workshop fulfil your expectations?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Was it interesting?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was it useful?</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Was it innovative and creative?</td>
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<td></td>
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<tr>
<td>Do you think that your point of view has been well taken into account by others?</td>
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<td></td>
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</tr>
<tr>
<td>Did you have any logistical difficulties to attend the workshop?</td>
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<tr>
<td>Did you learn about plans and planning?</td>
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<tr>
<td>Did you learn about natural resource management in the Rwenzori region?</td>
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<tr>
<td>Do you think that the right participants were there?</td>
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<tr>
<td>Do you think that you will be able to implement the actions that were suggested during the workshop?</td>
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<tr>
<td>Do you think that it will change your own behaviour?</td>
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<tr>
<td>Do you think that it may change the actions, decisions, operations of your organization?</td>
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<tr>
<td>Do you think that this workshop could lead you to modify your relationships with other actors?</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>With which actors and in what ways?</td>
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</tbody>
</table>

Would you like to be associated to this process in the future? If yes, how?

After this meeting, I commit to...

Are there any other comments you would like to add about the process and its outcomes?
Evaluation of the game

Could you please indicate hereafter your evaluation of the game process and some recommendations?

<table>
<thead>
<tr>
<th>About the game:</th>
<th>Not at all</th>
<th>Not so much</th>
<th>Quite</th>
<th>Much</th>
<th>Not concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have learnt about natural resources in the Rwenzori region</td>
<td></td>
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<tr>
<td>It was realistic, well representing the situation</td>
<td></td>
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<tr>
<td>I have learnt about plans</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>I have learnt about actions for integrated natural resource management</td>
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<tr>
<td>We could actually test new activities for the benefit of the region</td>
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<td></td>
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<td></td>
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<tr>
<td>We had fun using it – it's attractive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The game process has been going well</td>
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<tr>
<td>We could interact and discuss the issues</td>
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<tr>
<td>This game is good for us, representatives and intermediary stakeholders</td>
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<tr>
<td>This game is good for people in villages</td>
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<td></td>
<td></td>
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<tr>
<td>This game can be used by policymakers and other government organizations</td>
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</tbody>
</table>

Are there any other comments you would like to add about the game?

THANK YOU!
Annex 4.5 • Simple questionnaires distributed at the end of each local workshop
PART 2

INSTITUTIONAL DYNAMICS
Chapter 5 • A participatory planning process as an arena for facilitating institutional bricolage: example from the Rwenzori region, Uganda

Abstract

One solution considered by researchers and policy-makers to address environmental degradation is to explore change within environmental institutions. Three main approaches exist looking at how institutions change in response to social-environmental issues: institutional design, institutional fit and institutional bricolage. While all three approaches are relevant, they face challenges when it comes to actually supporting the institutional change process. This paper advances the idea that rather than trying to craft blueprint institutions through interventions, such interventions could act as “institutional corridors” to create favourable conditions for “institutional bricolage” to occur. A participatory planning process in the Rwenzori region in Uganda is used as an example. There, five strategies were used for the process to act as an institutional corridor. They were facilitated by four procedural elements and constrained by two external factors. The paper concludes by providing concrete ideas about how practitioners can experiment with intervention designs to facilitate institutional bricolage.

Key words

Africa; institutional bricolage; institutional corridor; institutional crafting; institutional design; institutional fit; natural resource management; participatory planning; Rwenzori; Uganda
5.1 Three approaches to institutions: institutional design, fit and bricolage

Many places around the world suffer from environmental degradation. One solution considered by researchers and policy-makers to address environmental degradation is to explore change within natural resource-related institutions. Three main approaches have been developed and applied by various scholarships to explore how institutions change in response to social-environmental issues.

The first approach is institutional crafting or design. This has a long intellectual history and has been developed and applied by many scholars (e.g. Cox et al., 2010). The main idea underlying this approach is that “we can exercise some control over human destiny by crafting the provision of resource and environmental regimes and adjusting key provisions of existing regimes in order to improve their performance in the light of experience” (Young, 2008, p.24). With institutional crafting, proponents generally seek to identify universally applicable “laws” or “design principles” providing a basis for designing, “crafting”, and even “engineering” institutions (Merrey & Cook, 2012). The main and most cited example of this approach is Ostrom’s design principles (Ostrom, 2005). Ostrom warned against using such principles as blueprints for design: institutions are also influenced by the rules, the underlying biophysical world and the type of human community involved (Ostrom, 1994, 2005). In practice, however, many development projects have overlooked these precautions, leading to the creation of institutions that are incompatible with the specific needs of community and place and have, thus, been unable to deliver the expected results (Lejano & Shankar, 2012; Mahanty & Dang, 2013).

The second approach, institutional fit, is based upon recognition of the importance of contextual factors. It refers to the “match or congruence between biophysical systems and governance systems” (Young, 2008, p.26). This approach recognizes that “researchers are unlikely to be able to design principles [because] a factor that is important in one setting may be of marginal significance or even irrelevant in others” (Young, 2008, p.25-26). This approach consists of identifying and evaluating the key characteristics of individual situations and crafting specific institutions to fit the circumstances encountered (e.g. Young, 2002, 2008). Various tools and techniques have been developed to facilitate in-depth situational analysis (e.g. Young, 2002) and have been applied by many donors and development agents over the past decade. In practice, however, the institutional fit approach often translates into detailed studies of the context of intervention, followed by “suggested remedies that
remain well within the terms of the good governance philosophy” (Booth, 2012, p.92) and that do not attempt to match the solutions with the problems identified.

The final approach, institutional bricolage, involves the conscious and unconscious piecing together of institutional arrangements from the materials at hand (Derrida, 1978; Levi-Strauss, 2004). This approach questions the idea that designing the correct institutional arrangements will further good governance and development (ADB, 1999; Grindle, 2007a; McGranahan & Satterthwaite, 2006). According to critical institutionalists, these desirable outcomes are not assured and we need to understand why if we want to attain them through development interventions. Based partly on work by Levi-Strauss (2004) and Douglas (1986), Cleaver (2012) further develops the concept of institutional bricolage to gain an understanding of how institutions work in practice and why the outcomes benefit some people and exclude others. While the concept of institutional bricolage has been investigated by a number of scholars (de Koning, 2014; Merrey & Cook, 2012; Sandström, 2008; Sehring, 2009), a practical application of this approach within the context of development is yet to be implemented.

5.2 Main concepts

Bricolage is a French word used to designate the creative and resourceful use of the diverse materials at hand, regardless of their original purpose. In English, the term can be most readily understood by the phrase “do it yourself”. By extension, institutional bricolage refers to a process in which individuals consciously and subconsciously draw on existing social formulae to patch or piece institutions together in response to changing situations (Cleaver, 2012). Termed “bricoleurs”, such individuals are often creative, innovative and are able to improvise: they can turn anything into something else (Douglas, 1986). The “institutional corridor” is the room to manoeuvre that bricoleurs have for identifying alternative institutional paths and for reshaping institutions (Cleaver, 2012).

Here, institutions are defined as the normative and cognitive frames, formal or informal, to which stakeholders refer when they are engaged in collective action. Normative frames include rules, norms and procedures. Cognitive frames include identity, culture, representations and common beliefs. These frames can be individual or collective. They survive and duplicate without particular mobilization, through social and political self-maintained and routinized mechanisms (translated from Lascoumes & Le Galès, 2007). Defined in this way, institutions can therefore be conceived as hybrids
and consisting of not one, but a combination of institutions that are both new and existing, formal and informal, explicit and implicit.

5.3 Research question, posture and methods

As stated previously, the concept of institutional bricolage is yet to be practically implemented and, as such, limited practical guidance exists for policy-makers on how to give effect to the concept on the ground. We therefore argue that, while the concept of institutional bricolage does provide relevance when describing institutional changes at hand, it has limited operational significance. The aim of our paper is to consider how to demonstrate the applicability of the concept in guiding development interventions. We therefore use the concept of “institutional corridor” developed by Sehring (2009). Sehring “characterizes the way institutional arrangements are both constrained and dynamic by drawing on the analogy of the institutional corridor” (Cleaver, 2012, p.205). Our hypothesis is that rather than trying to craft institutions through interventions, the interventions could act as institutional corridors and create favourable conditions for institutional bricolage to occur. Interventions may map out the landscape of the institutional corridor by reminding stakeholders of current governance arrangements. They may set the “width” of the corridor by suggesting the room to manoeuvre or possible institutional options that different actors have for identifying alternative paths and for reshaping institutions. Cleaver (2012, p.204) identifies a possible extension of the bricolage concept by asking: “Can the governance conditions be created which foster creative institutional bricolage?” Building on this notion, this paper explores whether participatory planning processes can act as institutional corridors to enable meso- and local-level institutional changes, in the geographical context of the Rwenzori region, Uganda.

We recognize that attempting to translate the theoretical concepts of bricolage and corridor into specific interventions may be a difficult proposition. One could argue, for example, that using the guidelines drawn from the application of these concepts within our Ugandan case study may lead to very different impacts when implemented across different contexts. However, our proposition is focused at two levels. The first is understanding the specificities of our case study and the second is generating results that are legible and useful to practitioners. To illustrate this, we present our case study in the form of a narrative as a means of capturing and embracing the complexities of the Ugandan institutional bricolage process. Concurrently, we present our conclusions in bullet point form to provide concrete and legible ideas that can be used by practitioners in their intervention designs.
Various methods were developed to monitor the context, process and institutional changes in the Rwenzori case. These included document reviews, baseline studies (see Migongo-Bake & Catactutan, 2012; Montserrat et al., 2013) and stakeholder analysis. A logbook or online journal (based on Etienne 2011), was used to record all procedural and contextual events taking place in the area be they environmental, relational, socio-economic, or political. At each workshop, attendance lists, expectations, pictures, videos, participant observation and questionnaires were used for longitudinal tracking of institutional changes and their causes. Interviews were carried out before the beginning of the process, after each workshop and at the end of the process. Interviewees were project team members, participants, non-participants living in similar conditions to the participants (for comparison between areas with and without the process) and non-participants who are participants’ relatives (friends, family and colleagues - to monitor the effects of the process outside of the group considered). Selection of interviewees within these groups was made using purposive and snowball sampling techniques. Methods were implemented by researchers, team members and independently by stakeholders. Methods, and associated collected data, were then triangulated in an attempt to limit the biases that typically arise through self-assessment. For a detailed description of the M&E methods used, see section 4.4.4.

5.4 Narrative of the Rwenzori case

5.4.1 Drivers and pressures on the social-environmental system

The Rwenzori mountain range is located in western Uganda, bordering the Democratic Republic of Congo. It is biologically diverse, in terms of both flora and fauna, and includes four national parks and two main forest reserves: Semliki and Itwara. The region, which is part of the White Nile basin, hosts several river systems, crater lakes and numerous wetlands. These lands are predominantly cultivated by smallholder farmers for subsistence farming. The tropical climate, bi-annual rainfall system (NEMA, 2004), and past volcanic activity have made soils highly fertile (Migongo-Bake & Catactutan, 2012).

A number of environmental and anthropogenic pressures are threatening this unique environment and the livelihoods of those that depend on it. Poor agricultural practices (Nagawa et al., 2004) and need for immediate sources of income and livelihoods (Nature Uganda, 2011; Plumptre et al., 2011) have led to substantial deforestation and associated environmental impacts including soil erosion,
A participatory planning process as an arena for facilitating institutional bricolage: example from the Rwenzori region, Uganda

Landslides and floods. These factors, combined with climatic change and high rates of population growth, generate food shortages and disease outbreaks for a population of which the majority is below the poverty line (UBOS & ILRI, 2007). Anthropogenic pressures have led to the overexploitation of land and natural resources such as wetland encroachment for agricultural or residential purposes (Mugume et al., 2011), intensification of agriculture (Wild & Mehta, 2006), and pollution and depletion of freshwater resources (Migongo-Bake & Catactutan, 2012).

5.4.2 Ugandan bureaucratic governance system for natural resource management

A number of international, regional, sub-regional and national legislative and policy frameworks related to the governance and utilization of natural resources exist in Uganda. A process of decentralization was deployed in Uganda in 1992, and today, much of the power and responsibilities to implement this framework and manage natural resources reside with local governments (Hartter & Ryan, 2010; Onyach-Olaa, 2003). The current governance system is characterized by five tiers, ranging from the village council (Local Council or LC1) up to the district council (LC5). District councils issue ordinances. At lower levels, urban, sub-county, division or village councils may issue byelaws (Government of Uganda, 1997, Section 39). Environment committees and officers theoretically exist at the district, sub-county and village levels. They are responsible for mobilizing, communicating and providing training on existing byelaws, monitoring of natural resources and sanctioning. Any citizen can report illegal activities or encroachers to the local environment officer or the LC1 chairman. Offenders are required to pay a fine or do physical work.

5.4.3 Gaps in the bureaucratic system, social norms and cultural beliefs

Gaps exist in the implementation of this legal framework that have led to institutional rearrangements for natural resource management. Our interviews identified that the environment committees and officers in the region are almost always inactive or non-existent at the local level. Lack of government funds impedes community meeting organization, implementation of activities and the work of environment officers, technicians and counsellors. This lack of funding, along with poor facilitation, have been identified by many interviewees as the main reason for the poor implementation of
policies. Corruption is one resulting factor and an example of this can be seen in environment officers accepting land use plans for private owners on wetlands. Such actions seem to be well-known by the population of the Rwenzori and have resulted in a lack of public trust regarding the capacity of the state to manage natural resources. Despite such issues being collectively identified, there does not seem to be an improvement in environmental management practices. The high financial expectations of the communities, combined with stakeholder participation fatigue, have decreased civil participation in governmental planning. Furthermore, the geographical remoteness of local communities from decision making hubs has led many communities to adopt their own local byelaws for natural resource management, which are generally a combination of Local Council byelaws, social norms and culture (Hartter & Ryan, 2010). Indeed, various traditional beliefs and customary systems of management surround natural resources and their use, and these systems can vary significantly across the region in accordance with different ethnic groups. For example, the Bakonjo believe that if bamboo trees are grown on farmland, an elder will die. Inequality is prevalent within the region, with “rich people” being perceived by many interviewees as being primarily responsible for natural resources degradation, revealing underlying social justice issues. Nevertheless, in most cases, the state does remain has an influential body in the management of the region’s natural resources.

5.4.4 History, culture and place

Current natural resource institutions and organizations are path-dependent, being shaped by history, culture and place. The Rwenzori region is home to three main tribes: the Bakonzo, the Bamba and the Babwisi and two ancient traditional kingdoms: Bunyoro and Toro. While the region’s Kings have no political power, they possess strong cultural power and have a significant influence over individual and collective decisions. Reinstatement of kingdoms in the Rwenzori in 1993 brought problems of land tenure when certain lands that had been exploited by farmers reverted to crown land.

Interviews with researchers revealed that the Rwenzori region is a very individualistic society when it comes to the outer-family circle. Community gatherings are rare. Nevertheless, various community-based organizations (CBOs) do exist. Local organizations or NGOs have played a role in implementing sanctioning systems such as “community policing” or “shame lists” for water and sanitation.
5.4.5 Intersecting networks

While few international donors remain active in the region, several civil society organizations (CSOs) do operate and are often particularly concerned with local environmental issues. Since 2003, regional CSOs have combined to form the Rwenzori Regional Development Framework (RRDF) (RRDF, 2011). The network, initiated originally by the government, now involves a plethora of NGOs, CSOs, private sector players and international agencies. This initiative was developed in coordination with the Rwenzori Think Tank, which undertakes research on socio-economic and environmental issues in the region. The RRDF is championed by Kabarole Research and Resource Centre (KRC), a not-for-profit research organization operating in the region (KRC, 2014), and the Think Tank by Mountains of the Moon University (MMU), a unique community-owned university created in 2002. MMU is the lead organization for the participatory planning process under study in this paper. Arrangements like RRDF draw on a network of stakeholders, interconnected through kinships and tensions, such as critiques concerning legitimacy and power issues towards KRC. Such links were furthered by well-connected members and extend up to the parliamentary and ministerial levels. These significant actors were institutional brokers of connection. As “bricoleurs”, they played a major role in the process.

5.4.6 The participatory planning process

The participatory process studied here was undertaken by MMU in response to a tender released by the European Research Commission. It involves stakeholders from various social groups and levels, especially local and meso, often not engaged in regional decision making. This initiative seeks to build an alternative to the existing governmental participatory planning process, the implementation and results of which are contested.

Acknowledging the importance of social and environmental issues in the Rwenzori, a team within MMU applied in 2010 to become one of the case studies of a European funded research project called AfroMaison. AfroMaison’s objective was to "contribute to bringing the concept of Integrated Natural Resources Management (INRM) into practice at the meso-scale" (AfroMaison, 2010, p.6). In that sense, it is situated in and influenced by the international governance concepts and principles. Part of this project is dedicated to the proposal and the validation of INRM plans that have engaged all the "stakeholders" and that are consistent with existing institutions.
Hence, a participatory planning process was implemented at meso and local levels with groups of stakeholders likely to play a role in the INRM decision-making process. The meso level is defined here as an intermediate level between the local (community) and the national levels. It corresponds to a mountainous geographical region of approximately 13,970 km\(^2\) in size and encompasses seven districts.

The participatory planning process (adapted from the AquaStress project: Ferrand et al., 2006) is composed of six phases:

1. Procedural agreement,
2. Evaluation and identification of an initial long-term common objective,
3. Action proposal,
4. Selection and integration of actions,
5. Test of the plan using a participatory simulation tool (role-playing game),
6. Implementation plan.

A plan is defined here as a "combination or integration of actions across time, space and scales to reach a given natural resource management objective" (Ferrand, 2012, p.7). In the Rwenzori, the participatory planning process was first implemented through a group of 30 meso-scale stakeholders. These stakeholders were selected by the MMU team and included many of the members of the networks previously evoked. The process comprised a series of four workshops over 24 months from April 2012 to April 2014. It allowed the development of three INRM meso plans which were tested with a role-playing game (called “MpanGame” from the name of River Mpanga flowing through the region) based on Wat-A-Game toolbox (Abrami et al., 2012; Ferrand et al., 2009). The focal issue identified by the participants was “sustainable natural resource management for socio-economic development” (Hassenforder et al., 2012b, p.18). From January 2013, the process was extended at the local scale to 35 communities, each of which developed their own local plan through a series of two to eight workshops per group over 12 months (January-December 2013). In July 2013, the three meso-level plans and the 27 local plans (some communities stopped the process or could not draft their plan in time) were merged by the participants into a draft regional INRM plan. In May 2014, after the end of AfroMaison project activities, the plan was endorsed by the RRDF who took responsibility for the coordination and monitoring of its implementation. Implementation of the different actions of the plan was then split among the members of the RRDF depending on their sector of expertise (such as agriculture, water or education), while proposals for funding were to be submitted by the overall network. For a detailed description of the Rwenzori participatory planning process, see section 7.4.
5.4.7 Five intentional strategies to act as an institutional corridor

This section investigates to what extent the participatory planning process constrained and widened the scope for institutional bricolage, therefore operating as an institutional corridor.

The process acted as an institutional corridor in five ways. First, facilitators and experts emphasized throughout the process the importance of having adequate institutional arrangements to manage natural resources in a sustainable way. Second, facilitators mapped out the “landscape” of the institutional corridor by including the state-of-the-art of existing governance arrangements, highlighting their strengths and weaknesses. Third, facilitators and experts set the “width” of the corridor by suggesting various alternative institutional options or paths that could be taken by the stakeholders. Fourth, facilitators “left the door open” for the stakeholders to choose whether these adequate institutional arrangements should be new, those already in existence, or a mixture of the two. Finally, the participants’ selection shaped the institutional bricolage process by focusing on strengthening the presence of government representatives in the process. The project-defined corridor is itself shaped by wider governance arrangements. These external factors limiting the effectiveness of the process to act as an institutional corridor are explored in a later section. We will describe now how these five strategies shaped the institutional bricolage route developed throughout the participatory planning process.

The first workshop started with a presentation of the results of the baseline study which had been made in the area. The baseline study highlighted corruption as a key weakness of INRM institutional arrangements in the Rwenzori region. It also noted that one of the opportunities for INRM implementation in the region came about because a decentralized governance structure and an INRM legal framework already exist. The subsequent discussion among participants uncovered weakness within existing institutional arrangements. Examples of comments were “there is a lack of human resources in the Ministry of Water and Environment to address environmental issues such as degradation of the crater lakes or river pollution”, “there are some laws but they are not implemented” or “there are no sanctions against waste throwing”. Participants also identified potential institutional options among existing arrangements such as building on collaborative forest and other natural resource management schemes. As a result of these discussions, institutional issues such as “poor enforcement of INRM policies”, “corruption”, ignorance of environmental laws”, “low prioritization of natural resources by the central government” or “lack of facilitation of relevant departments” were integrated by the three groups in their scenarios. By highlighting existing and
potential institutional constraints and opportunities, facilitators were then able to map out the landscape and set the width of the institutional corridor.

After defining the focal issue, participants were then asked to define indicators of success for their focal issue. These indicators were split into five categories, one being “governance, institutions, organizations, political” arrangements. Here, the objective was to suggest that for success, adequate “governance, institutions, organizations and political” arrangements were deemed necessary. Various institutional indicators were listed. Emphasizing the importance of having adequate institutional arrangements was one of the strategies used to act as an institutional corridor.

Subsequently, participants suggested actions that could be included in their INRM plan. After an open brainstorming session, experts intervened to broaden the scope of action proposals. One of the presentations was on “governance and institutions”. The presentation emphasized the rationale for having adequate institutions and presented the various features of institutions, suggesting that the Rwenzori had some of these features, like laws and policies, but lacked others such as organizational or management rules. The expert who made the presentation concluded by saying that in terms of institutional arrangements, “no blueprint [was] valid for all cases” and that “appropriate arrangements depend on local circumstances”. No specific institutional solution was suggested. Instead, the panel of potential institutional options was broadened for participants to choose from. The objective was to leave the door of the corridor open while widening the width of the corridor (i.e. the range of possible institutional options). Following this presentation, participants included various institutional actions in their plan such as “formation of water users groups”, “promotion of collaborative INRM”, “hiring of a technical person to monitor and evaluate policy enforcement” or “community based surveillance/guard of natural resources”.

At the second workshop three months later, the role-playing game pictured the “real situation” and notably the constraints and limitations of existing institutional arrangements, embodied by the role of an environment officer in the game. The participant playing that role had to sit remotely from the main game table and could only occasionally have interactions with other players. The objective was to map out the landscape of the corridor by reminding participants of the existing institutional setting. At the end of the game, participants discussed the need for an independent mechanism to reduce corruption, enhance law enforcement and control environment officers’ activities. Participants agreed that no such structure existed in the region, with one individual highlighting that “there is no network on INRM or environment in the Rwenzori region”. Following this acknowledgement, the idea of
creating new institutional arrangements was brought up for the first time by participants. Different forms were evoked, including a “body”, a “committee”, an “umbrella network” and a “private company”. Since the nature of the participatory planning process involves encouraging participants to focus on concrete implementation paths, facilitators asked participants to discuss of the actions and conditions that would be needed for such a structure to exist. Participants evoked terms of reference, a name for the network/association, objectives, a constitution and a strategic plan. They also mentioned that “this body should be legally recognized with the power to sue and be sued”. Many participants agreed that personal commitments to this committee were needed. As a result, an item was included in the final evaluation questionnaire after the workshop: “I would like to be associated to a future network of key actors for INRM in the Rwenzori region”. This open discussion shows how the process broadened the range of options left for actors’ choices, once again acting as an institutional corridor.

Since the absence, yet importance, of government representatives had been highlighted in the second workshop, the third workshop targeted specifically the inclusion of district leaders in the process. This targeted participant selection illustrates the fifth way in which the process acted as an institutional corridor: by focusing on strengthening the presence of government representatives in the process. At various occasions, international experts emphasized that the success and quality of INRM depended on the district leaders’ practices: “this is all about changing practices in your organizations and institutions”. Some of the participants recognized the importance of their role in INRM: “as leaders we should look at the enforcement of the regulations” or “if each one of us would do something concrete before the next workshop, it would be much more useful than any workshop”. Debates took place as to whether existing environment committees, even though many are ineffective, could be an entry point to an adequate institutional arrangement for INRM. Most participants agreed that one of the key functions which had to be undertaken by this institution, whether the committee or an alternative one, was to monitor environmental practices on the ground. One expert took this opportunity to remind participants that “It is up to you, district leaders, to monitor the implementation on the ground. I don’t know if it’s through an existing organization such as the Rwenzori Think Tank, the RRDF or other, or through a new one, but it should be done”. Participants resolved that to do that, not only them as district leaders, but also their broader district councils, should be involved. Unlike the second workshop, the third one ended with the common idea that an alternative institutional arrangement might not be needed but that instead, the district councils could fill the existing institutional gap. One district speaker concluded “we are the ones who should bring changes. We have structures that are already there, if we have a gap, we can seek support. What else
do we need? It’s our responsibility to sustain natural resources”. This idea was translated in many of the participants’ commitments in their questionnaire after the workshop. These discussions highlight how, by acting as an institutional corridor, the process triggered the bricolage of existing and new institutional arrangements.

Several institutional corridor strategies were also used in the final workshop, during which the three meso plans and the 27 local plans were merged by the participants into a draft regional INRM plan. Facilitators asked participants to prioritize actions within the final plan by using five limiting resources including laws. This suggested that laws, licenses, regulation and control are essential in INRM (first strategy). Subsequently, various institutional and policy actions were prioritized in the final plan including “byelaws at community level on river water usage”, “regional policy on population growth” or “translation of available policies into local languages”. Yet at that stage facilitators felt that participants still had trouble overcoming existing institutional limitations. For instance, many actions included in the plan related to “more policies” even though most participants had recognized in earlier workshops that INRM policies existed but lacked enforcement. Many actions were also related to “law enforcement” but without detailing how this should be done. One of the latest stages of the process aimed at clarifying how these actions should be implemented by filling in “action implementation sheets”. This forced participants to think concretely how institutional arrangements should be implemented, or in other words how an institutional bricolage process would take shape.

5.4.8 Four additional procedural elements facilitating institutional bricolage

In addition to these five intentional strategies, analysis of the process revealed that several elements within the participatory planning process facilitated institutional bricolage. These are: role-playing games, experience and knowledge sharing among participants, the role of “bricoleurs”, and certain phases of the process such as the definition of the focal issue or of indicators of success to create and legitimate shared understandings and debate about issues of distributive and interactive social justice.

First, the use of role-playing games was an important driver that allowed social norms and cultural beliefs to be revealed and renegotiated, therefore widening the scope of the institutional corridor. Specifically, by embodying their own roles, the participants were able to reveal existing individual and collective norms and rationalities operating in the social sphere. This is illustrated, for example, by the
A participatory planning process as an arena for facilitating institutional bricolage: example from the Rwenzori region, Uganda

preference of small-holder farmers to cultivate deforested soils rather than their own fields because forest soils are deemed to be more fertile.

Second, the process affected some of the beliefs of the participants through experience and knowledge sharing. While playing the game, one of the participants mentioned “I did not know that banana cultivation generated pollution”. Bananas are one of the main crops traditionally grown by small-holder farmers both as a livelihood necessity and a source of income. Traditionally, having a big and well maintained banana plantation was a symbol of prestige which would determine a farmer’s social status. Such sentiments still exist among some groups in the Rwenzori region. This shows that existing beliefs and informal institutions concerning the social-environmental system were being challenged.

Third, “bricoleurs” or brokers of connection played an important role in the institutional bricolage process. Among them were members of government, journalists, representatives of civil society, of kingdoms and MMU staff. They were very influential in developing the five strategies exposed in the previous section. Other stakeholders interestingly demonstrated opposite behaviours: they were well placed to play a key role in the institutional bricolage process but deliberately did not take on that role. Reasons behind this behaviour or inaction vary and were not always revealed by the stakeholders. Thus, we can only assume that such behaviours may relate to hierarchical relationships, personal ambitions, workload and social status. Once again this aspect discloses the richness of human agency and its interconnectedness with institutions.

Finally, certain phases of the process, such as where participants defined focal issues or indicators of success, generated very interesting discussions. People had understood broad terms such as “food security” in different ways. A group that had selected food security as an indicator realized that they disagreed on its practical meanings: some mentioned that “each person having at least two meals per day” was a good way to measure the term, while others retorted that the amount of calories needed to be mentioned, as one could have a meal that was not nutritious enough to cater for their needs. Eventually, this lead to the creation and legitimation of shared understandings, therefore contributing to institutional bricolage. Such phases created opportunities for debates to take place on issues of distributive and interactive social justice around questions like “What are the critical needs required to ensure basic survival?” During one round of the game, one decision maker, playing the role of a small holder farmer, commented “I did not know why farmers did not have any money at the end of the month but now I understand better”. This led the players to deliberate, while playing the game,
over issues of equity, equality and self-interest which are constituent of informal institutional arrangements.

5.4.9 Factors limiting the effectiveness of the process to act as an institutional corridor

Despite the efforts made by facilitators and experts to foster institutional bricolage, no consensus regarding a definite institutional arrangement to be implemented was reached. Scattered institutional actions were integrated in the plan but no overall institutional framework was agreed upon. Interviews revealed that participants, and decision makers in particular, had adopted a wait-and-see dogma, expecting MMU, as an organization, to continue the plan implementation and INRM operationalization in the region. A decision was therefore made by the project team, along with key stakeholders, to engage the RRDF as the key organization responsible for overseeing the implementation of the actions included in the plan.

Two main factors seem to have limited the effectiveness of the Rwenzori participatory planning process to act as an institutional corridor: (1) the social embeddedness of the process, and (2) its path-dependency to pre-existing authoritative relationships and social inequalities.

The participatory planning process is socially embedded and therefore influenced by social, ecological and political dynamics. One workshop had to be postponed after the sudden death of one Member of Parliament. Suspicions of poisoning surrounded her death and when the workshop took place a few days after, many discussions and interviews related to issues of corruption, conspiracy and political ineptitude. This anchored participants in their current situation and prevented them from exploring alternative solutions.

Similarly, the process could not entirely address the exercise of power or existing social inequalities, even though the team and facilitators tried to maximize the representativeness and equality of participants. Several strategies were used to avoid power struggles, including alternation of group settings, round tables and careful selection of participants. The role-playing game was also a useful tool, as it allowed participants to reveal and discuss underlying tensions. In that way, stakeholders could share and negotiate their conflicting visions and direct conflict could be avoided. The objective was not to reach a consensus but rather to highlight the differences and foster learning. However, the
exercise of power or existing social inequalities could not be entirely addressed. The most disadvantaged participants did not necessarily use the opportunity that they were given to express themselves while stakeholders empowered with high levels of responsibilities tended to monopolize the discourse, whilst not listening to others’ points of view. Eventually, the process served the interests of certain actors who already had authoritative power by legitimating their actions and worldviews.

5.5 Discussion and ideas to be experimented by practitioners

Overall, MMU was very enthusiastic about the approach. This enthusiasm was illustrated by the decision to extend the process to the local level, which was not originally planned in the AfroMaison framework. Such an approach can require more people and skills than traditional top-down INRM planning. However, many countries, including Uganda, have now adopted participatory approaches as part of their governance system, in the environmental field and elsewhere. Therefore, these resources are supposedly made available by governments.

The narrative of the Rwenzori case highlights the relevance of the concepts of institutional bricolage and corridor to understand how institutions evolve through human action in response to new circumstances, such as a participatory planning process, but are shaped with reference to existing ones. The analogy of the institutional corridor (Sehring, 2009) was useful in characterizing how the participatory planning process both constrained and enabled the room to manoeuvre for institutional bricolage. In particular, five strategies were used for the process to act as an institutional corridor. These are: (1) emphasizing the importance of adequate institutional arrangements for INRM; (2) mapping out the landscape of the institutional corridor by including a state-of-the-art of existing governance arrangements; (3) setting the “width” of the corridor by suggesting various possible alternative institutional options; (4) leaving the “door” open as to whether adequate institutional arrangements should be new, those already in existence or a mix of the two; and (5) strengthening the presence of government representatives in the process.

In addition to these five intentional strategies, analysis of the process revealed that four elements within the participatory planning process also facilitated institutional bricolage. These elements are: the use of role-playing games; the sharing of individual and collective learning and experiences; the
role of bricoleurs or brokers of connection; and certain phases of the process such as where participants defined focal issues or indicators of success to create and legitimate shared understandings and debate about issues of distributive and interactive social justice. These five strategies and four elements are aspects that can be emphasized by practitioners when designing an intervention destined to facilitate institutional bricolage.

The case also showed that external factors could limit the effectiveness of participatory planning processes to act as an institutional corridors, such as the social embeddedness of the process and its path-dependency to pre-existing authoritative relationships and social inequalities. We therefore conclude that interventions, and participatory planning processes especially, can partly facilitate institutional bricolage. This is confirmed by Cleaver (2012, p.211) when she mentions: “transformation and change is always possible through bricolage, but facilitating it through designed interventions requires a flexible and constantly adaptive approach that crosses scales and is able to address the exercise of both visible and invisible power”.

Based on our Rwenzori case and on existing literature about institutional bricolage, we now provide further concrete ideas about how practitioners can experiment with intervention designs to facilitate institutional bricolage.

Most, if not all, of the principles listed by the participation literature for “effective” participation are relevant in that respect such as: representativeness, transparency, accountability and accessibility. These are one of the ways to “address the exercise of both visible and invisible power” and try to avoid reproducing social inequalities in the participatory arena. Power and social inequalities can, however, never be completely erased. We argue that being able to monitor them and reveal them to the group is one of the ways to address this problem. Such principles are similar to the ones identified in social justice and representing the criteria for a fair process (Lukasiewicz, Bowmer, Syme, & Davidson, 2013).

Other findings derived from the Rwenzori case study may also inform intervention designs to facilitate institutional bricolage:

- **Making and using an in-depth analysis of the historical, social and cultural context.** Various tools and concepts exist for that purpose (e.g. the “diagnostic method”, Young, 2002). This endeavour should be based on existing literature, documentation and on indigenous knowledge. *This analysis should actually be used as a basis for intervention design.* For
example, knowledge of existing social networks and kinships can be used prior to the selection of the stakeholders.

- **Highlighting the institutional constraints and opportunities:** as emphasized by Booth (2012), the majority of blockages in institutional bricolage do not come from a lack of resources, as is often presumed, but from institutional impediments. Various tools can be used to address this blockage (e.g. role-playing games). The role of facilitators is essential in that matter to 1) summarize the constraints, but also the opportunities listed by the participants, 2) provide feedback, and 3) ensure that discussions go beyond a complaint discourse and present opportunities for overcoming those.

- Even in places where there is a “governance vacuum” left by a state which is weak or absent (Cleaver, 2012), it is important to draw the state back in and to involve governmental stakeholders in the process. In many situations formal state organizations still retain responsibility for public goods and ensuring equity and sustainability. Since they are key stakeholders in the natural resources governance landscape, they are seen by the stakeholders as indispensable. Several of the interviewees mentioned that “even though the government is corrupted and inefficient, they are the ones who should take the lead in the process”.

- **Working at multiple scales** also facilitates institutional bricolage. This case study shows how local-, meso-, national- and global-level decision making are entwined and can interact. Merrey and Cook (2012) recommend that the process should start at the local scale by identifying the local institutional landscape, social networks, and innovators (bricoleurs) through research and consultation. Adaptive capacity of those bricoleurs can be strengthened and local action-oriented investment and innovation encouraged, based on local capacities. The macro scale comes after or in parallel by putting effective infrastructure and institutions (through facilitated bricolage) in place. The aim is to focus on higher-level change agents and champions using tools, such as adaptive management principles, to identify priority problems and implement the solutions in learning-oriented partnerships with key stakeholders. Our Rwenzori case illustrates this argument since local-level bricoleurs were key in the process and local action-oriented investment and innovation started much earlier than meso-level investment.
The process should, as much as possible, reveal the complexity of the social-environmental system, the dynamic interactions among the stakeholders and the diverse and complex influences shaping human behaviour and choices such as social concerns, psychological preferences or culturally and historically shaped ideas about the “right ways of doing things”. Role-playing games seem to be an appropriate tool for this purpose.

Finally, the process designers must have a deep understanding of what is happening through the process including visible and invisible operations of power, informal bargaining, bending of rules and practices, worldviews shaping participation, voicing of social norms and cultural beliefs and negotiating bureaucratic institutional arrangements. Only a comprehensive, mixed methods monitoring system can allow this. This involves staged data collection (before, during and after the workshops and process), at various scales (where the process is implemented but also beyond to understand wider societal trends) and social groups (with participants but also non-participants to have a deeper understanding of the wider social relationships and practices).

### 5.6 Conclusion

This paper started by introducing three approaches to institutions: institutional design, fit and bricolage. Both institutional design and fit provide valuable principles on how to guide institutional change while taking into account contextual factors (see Ostrom, 2005; Young, 2008). In practice, however, practitioners have faced challenges applying these principles and actually designing interventions promoting institutional arrangements adapted to the context and problems identified. Our paper aimed at bridging this gap. Building on the example of a participatory planning process in the Rwenzori region in Uganda, this paper has shown that interventions, and participatory planning processes, can partly facilitate institutional bricolage by acting as institutional corridors through:

- Providing a favourable environment for the bricoleurs,
- Providing tools and raw materials,
- Selecting the bricoleurs,
- Eventually putting rules on how to behave during the process,
- Providing bricoleurs with a framework, steps to follow, and then letting them fill in this empty canvas,
- Building skills such as use of the tools, and
- Opening the bricoleurs’ minds by providing catalogues of ideas of what they could build.
All of these tasks should be undertaken with the bricoleurs themselves in a co-engineering approach (Daniell, 2012) as no one is better placed than they are to know what tools, material and equipment are needed.

Ideas highlighted in the discussion were based on existing literature, experiences, and on the specific case study presented here. The study made on the Rwenzori participatory planning process was conducted over a period of approximately two years. Evolution of the Rwenzori institutional bricolage process constitutes an outstanding case for further research in the coming years. One striking point from this analysis is the importance of role-playing games in revealing the underlying norms and beliefs. Finally, while emphasis here was largely placed on the meso scale, the majority of studies concerned with institutional bricolage focused on the local scale. A key next step is to assess the implications of using the concept across the various scales and to what extent it can inform the interplay among them.
Chapter 6 • Drivers of environmental institutional dynamics in decentralized African countries

Abstract

This paper builds on the assumption that an effective approach to support the sustainability of Natural Resource Management (NRM) initiatives is institutional “bricolage”. We argue that participatory planning processes can foster institutional bricolage by encouraging stakeholders to make their own arrangements based on the hybridization of old and new institutions. This paper aims at identifying how participatory process facilitators can encourage institutional bricolage. Specifically, the paper investigates the specific contextual and procedural drivers of institutional dynamics in two case studies: the Rwenzori region in Uganda and the Fogera woreda in Ethiopia. In both cases, participatory planning processes were implemented. This research has three innovative aspects. First, it establishes a clear distinction between six terms which are useful for identifying, describing and analysing institutional dynamics: formal and informal; institutions and organizations; and emergence and change. Secondly, it compares the contrasting institutional dynamics in the two case studies. Thirdly, process-tracing is used to identify contextual and procedural drivers to institutional dynamics. We assume that procedural drivers can be used as “levers” by facilitators to trigger institutional bricolage. We found that facilitators need to pay particular attention to the institutional context in which the participatory planning process takes place, and especially at existing institutional gaps or failures. We identified three clusters of procedural levers: the selection and engagement of participants; the legitimacy, knowledge and ideas of facilitators; and the design of the process, including the scale at which it is developed, the participatory tools used and the management of the diversity of frames.

Key words

Bricolage; informal institutions; institutional change; organizations; participatory planning process; process-tracing
6.1 Introduction

NRM experience and research in Africa has found that NRM interventions have been more sustainable when supported by adequate institutions (Leroy, 2009; Stroud, 2003). For the purposes of this paper, an intervention is defined as "purposeful action by an agent to create change" (Midgley, 2000, p.1). Indeed, at the completion of many NRM projects, many of the outputs developed are not maintained as the institutional arrangements surrounding their implementation are dysfunctional. In many African countries with a decentralized form of government, formal institutions exist to manage natural resources (e.g. Uganda, Ethiopia, South Africa and Senegal). However, these formal institutions tend to be young, lacking resources and capacity (Hyden, 2006). In addition, informal institutions such as traditional beliefs or corruption often shape environmental behaviour and outcomes more strongly than formal institutions (Helmke & Levitsky, 2004).

Therefore, NRM interventions need to address both the environmental issues of concern and the institutional structures that support NRM actions. In many developing countries, donors installing small-scale infrastructure such as pumps or tree nurseries are recognizing this problem and have begun to encourage the establishment of institutions such as water users associations, byelaws, forest certification schemes or community forestry associations. However, practitioners have recognized that institutional and organizational structures, when created and implemented in an ad-hoc fashion, are no more sustainable than the environmental outcomes they were meant to support. Quite often these efforts were prejudiced by donors’ ideals or preconceptions, “best practices” (Levy, 2004), or “institutional mono-cropping” (Booth, 2012; Evans, 2004) that were not suited to the implementation context. This has allowed for a new conception of institutions which is more context-sensitive and embedded in existing arrangements (Grindle, 2011; Unsworth, 2009). These ideas of institutional fit, bricolage or hybridization have recently been explored by many authors (Arts & Leroy, 2006; Cleaver, 2012; Young, 2008).

This paper builds on this assumption, that a more effective approach to NRM interventions is to promote institutional “bricolage”, that is to encourage stakeholders to make their own arrangements based on the hybridization of old and new institutions, rather than to impose an external institutional ideal. We argue that one, among other interventions, for fostering institutional bricolage in NRM is through participatory planning processes (see chapter 5). “Participatory planning is a process usually designed to address a specific issue, opportunity or problem with the intent of resolving or exploiting it successfully through the collaborative efforts of the crucial stakeholders. This means getting very
specific about what is done, to what extent, by whom, for what purpose” (UN Habitat, 2001, p.20). Stroud (2003, p.7) argues that the “the process of organizational [and institutional] change should focus on the “outcomes” of the change process – i.e., what needs to be accomplished, thinking through how to get there and translating this into action”. In the light of these considerations, participatory planning seems a priori a relevant approach to foster institutional bricolage.

The aim of this paper is to clarify how participatory planning process facilitators can foster institutional bricolage. This requires being able to 1) identify institutional dynamics when they occur, and 2) trace the contextual and procedural drivers that trigger these dynamics. We define a driver as “a factor which causes a particular phenomenon to happen or develop” (Oxford Dictionary). We have assumed that procedural drivers can be used as “levers” by participatory process facilitators to foster institutional bricolage (Smajgl & Larson, 2007).

Literature on institutional emergence and/or change in the political sciences, economics and social sciences has led to some significant advances in our understanding of the processes and drivers of institutional dynamics. The structural or property approach to institutional change identifies the structural forms or specific features of an institution (Scott, 2010; Stroud, 2003). It lists the elements that compose institutions and that needs to be investigated when undertaking an institutional analysis.

Specifically, it focuses on actors’ agencies, behaviour and capacities as well as on the rules, decision-making hierarchies, information systems and other elements composing institutions’ structures (Kotter, 1996). The process approach to institutional change provides an understanding of how institutions emerge and change (Scott, 2010; Stroud, 2003). Researchers within this field argue that institutional dynamics may result from purposeful design by single individuals or groups of individuals, referred to as the design-based approach to institutional change (Kingston & Caballero, 2008). Alternatively, institutional dynamics may “periodically emerge and undergo some kind of decentralized selection process as they compete against alternative institutions”, which is commonly referred to as the evolutionary approach to institutional change (ibid.p.2). Central to these concepts is the need to distinguish between institutions and other extra-institutional phenomena (e.g. organizations, culture, and behavioural regularities) as well as the need to distinguish between emergence and change. Other authors underline the need to look not only at the specific features of institutions and to the processes by which these emerge and change, but also at institutional “formalism” (Cleveringa et al., 2009; Helmke & Levitsky, 2004). In other terms, they emphasize the
need to look at both formal and informal institutions. In particular, environmental science researchers provide further insights on informal institutions (e.g. Arts & Leroy, 2006; Leach et al., 1999; Paavola, 2007). This literature overlaps to a certain extent the one previously cited albeit taking a different approach and using a different terminology. Most of the authors working on environmental institutions focus on local arrangements around common property resources and community-based natural resource management (e.g. Agrawal, 2001; Bromley, 1992; Ostrom, 2005). They often investigate the shift from government to governance, the latter including arrangements for governing natural resources by resource users themselves without involving the state (e.g. Lemos & Agrawal, 2006; Rosenau & Czempiel, 1992). These arrangements are often, but not always, informal. Therefore, informal institutions are commonly referred to by these authors as “rules-in-use” (Ostrom, 2005), customary institutions (Paavola, 2007) or self-governing institutions (Tang, 1992). Identifying institutional dynamics when they occur requires the following six terms to be clarified: formal and informal institutions; institutions and organizations; and emergence and change. These terms are often used interchangeably in the literature which creates confusion for practitioners (Helmke & Levitsky, 2004; Kingston & Caballero, 2008).

The second aspect of our research focuses on tracing the contextual and procedural drivers triggering these dynamics. Many institutional change authors, looking at any of these dynamics, attempt to identify drivers of institutional change. Most authors distinguish between endogenous drivers, within the institutional structure or arena under consideration, and exogenous drivers, within the broader environment (e.g. Ostrom, 2005; Saleth, 2006; Stroud, 2003; Wiering & Crabbé, 2006; Young, 2010). The former encompass, among others, values, preferences, skills, willingness to change, facilitation and policy entrepreneurs, while the latter encompass biophysical forces, socio-economic development, political and cultural processes or shock events. However, most authors focus on exogenous drivers (Kingston & Caballero, 2008, p.13), without detailing precisely what these drivers are and, more importantly, undermine the importance of endogenous drivers, which are yet essential to consider when institutional emergence or change is triggered by an intervention.

Our analysis aims at bridging this gap by exploring the specific contextual (exogenous) and procedural (endogenous) drivers behind institutional dynamics. We use the six terms of formal and informal, organizational and institutional, and emergence and change to identify, describe and analyse the types of institutional dynamics occurring in two case studies. Section 6.2 clarifies the main differences

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17 See Arts & Leroy (2006) for a discussion on the link between institutional change theories and government-governance shift theories.
between the six terms and the eight types of institutional dynamics that they delineate. We establish the distinction for clarity and analytical purposes only, since in reality these eight types of institutional dynamics are intrinsically interconnected. Sections 6.3 to 6.5 look at two case studies in which participatory planning processes were implemented. In each case study, contextual and procedural drivers of three selected institutional dynamics were identified using the process-tracing method (George & Bennett, 2005). The comparison of these six dynamics (section 6.6) allows us to draw conclusions on the contextual drivers and procedural levers which should be given specific consideration by practitioners when undertaking NRM participatory planning processes aimed at institutional bricolage in Africa (section 6.7).

The innovative aspects of this paper are:

- The clear distinction between the six terms presented in section 6.2,
- The comparison of the contrasting institutional dynamics in each case study (section 6.6), and
- The use of process-tracing to identify contextual and procedural drivers to institutional dynamics (section 6.5). To our knowledge, no previous concrete application of the process-tracing method had been made in the literature to identify drivers of institutional dynamics.

6.2 Clarification of the main terms used in this paper

*Institutions* are defined in this paper as normative and cognitive frames, formal or informal, to which stakeholders refer when they are engaged in collective action. Normative frames include rules, norms and procedures. Cognitive frames include identity, culture, representations and common beliefs. These frames can be individual or collective. They survive and duplicate without particular mobilization, through social and political self-maintained and routinized mechanisms (translated from Lascoumes & Le Galès, 2007). This definition borrows from Bourdieu (1980), Douglas (1986), North (1990) and Ostrom (2005). Within institutions, *formal institutions* are the rules and procedures, usually written and explicit, which are created, communicated, and enforced through official channels like executives or legislatures. *Informal institutions* are usually unwritten, implicit, and created, communicated, and enforced outside of officially sanctioned channels (Helmke & Levitsky, 2004 borrowing from Brinks, 2003). While the definition of formal institutions is quite straightforward, informal institutions can easily be mistaken with other, non-institutional, social phenomena. Based on Helmke & Levitsky (2004) and Meagher (2007), we distinguish informal institutions from informal
behavioural regularities and culture by the fact that institutions, formal or informal, are: 1) shared; 2) enforced, in that non-compliance results in some kind of sanction and 3) long-lived.

*Organizations* are meant here as bodies of agents or groups of individuals, for example associations, environment committees, cooperatives or governmental administrations (North, 1990). An organization is therefore composed of the actual actors, while an institution is the normative and cognitive frame that actors follow. Organizations follow the same formal/informal distinction than institutions do. Formal organizations are not necessarily associated with formal institutions: informal rules may be embedded in formal organizations (e.g. corruption). However, organizations and institutions are deeply interconnected.

The third distinction is between *emergence* and *change*. We consider that institutional or organizational *change* happens when modifications are made to pre-existing arrangements. *Emergence* takes place when no similar arrangements pre-existed.

Table 6.1. summarizes the definitions of these six terms.

**Table 6.1 Definitions of the six main terms used in this paper**

<table>
<thead>
<tr>
<th>TERM</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutions</td>
<td>Normative and cognitive frames to which stakeholders refer:</td>
</tr>
<tr>
<td></td>
<td>1. Shared,</td>
</tr>
<tr>
<td></td>
<td>2. Enforced (non-compliance results in some kind of sanction), and</td>
</tr>
<tr>
<td></td>
<td>3. Long-lived.</td>
</tr>
<tr>
<td>Organizations</td>
<td>Bodies of agents or groups of individuals</td>
</tr>
<tr>
<td>Formal</td>
<td>Usually written and explicit; created, communicated, and enforced through official channels</td>
</tr>
<tr>
<td>Informal</td>
<td>Usually unwritten and implicit; created, communicated, and enforced outside of officially sanctioned channels</td>
</tr>
<tr>
<td>Emergence</td>
<td>No pre-existence of similar arrangements</td>
</tr>
<tr>
<td>Change</td>
<td>Modifications to pre-existing arrangements</td>
</tr>
</tbody>
</table>

In this paper, “institutional dynamics” is defined in a broad sense. It encompasses eight types of dynamics, illustrated in Figure 6.1, and delineated by the six terms defined in Table 6.1.

6.3 Methodology

As highlighted in the introduction of this paper, we argue that one, among other interventions for fostering institutional bricolage is through participatory planning processes for NRM (see chapter 5).
Examining such interventions in depth will allow us to identify the specific contextual and procedural drivers of institutional dynamics in the context of an intervention partly aiming at supporting institutional bricolage.

In 2010, a European Union funded research project called AfroMaison was launched to address the challenges of making Integrated Natural Resource Management (INRM) in Africa operational. Part of the project was dedicated to the development of participatory planning processes. These processes aimed at proposing and validating INRM plans as well as triggering institutional dynamics to support the implementation of those plans. The process was comprised of six phases developed through a series of participatory workshops (adapted from the AquaStress project: Ferrand et al., 2006):

1. Procedural agreement,
2. Evaluation and identification of a long-term common objective (problem framing),
3. Action proposal,
4. Selection and integration of actions,
5. Test of the plan using a participatory simulation tool (role-playing game),
6. Implementation plan.

Two AfroMaison cases were selected for in-depth investigation due to an early uptake of planning processes and the interest of facilitators in a reflection on institutional dynamics: the Rwenzori Mountains in Uganda and the Fogera woreda (district) in Ethiopia. In each of these two cases, three dynamics were investigated in depth in order to identify their contextual and procedural drivers:

UGANDA (U):
- First dynamic (U1) - Social learning: informal organizational change (section 6.5.1.1),
- Second dynamic (U2) - Endorsement of the plan by the RRDF: formal institutional emergence (section 6.5.1.2),
- Third dynamic (U3) - Integration of Mountains of the Moon University (MMU) in the environmental cluster of the RRDF: formal organizational change (section 6.5.1.3).

ETHIOPIA (E):
- First dynamic (E1) - Social learning: informal organizational change (section 6.5.2.1),
- Second dynamic (E2) - Creation of a task force: formal organizational emergence (section 6.5.2.2),
- Third dynamic (E3) - Terms of reference: formal institutional emergence (section 6.5.2.3).
In order to be able to identify the occurrence and drivers of these dynamics, a monitoring and evaluation (M&E) framework and associated methods were developed and implemented in the two cases (see chapters 3 and 4). Evaluators included some of the participatory process facilitators and key stakeholders. In each case, analytical variables were selected, which were meant to support the assessment of the institutional and organizational dynamics taking place, as well as the potential contextual and procedural variables triggering these dynamics (see section 3.4.3). Variables are defined as elements that need to be looked at in order to monitor and evaluate institutional dynamics and their drivers. Drivers are therefore contextual or procedural variables influencing institutional dynamics. An initial selection of variables was made based on a review of the relevant literature, baseline studies and stakeholders analysis. The resulting preliminary list of variables was then reviewed by evaluators and key stakeholders through interviews. Since the list of variables is adapted to each case study context and process, the Ugandan and Ethiopian M&E frameworks have a similar basis but certain dissimilar variables.

Figure 6.2 illustrates the M&E framework developed for the Ugandan case.
The Ethiopian framework was to a large extent similar to the Ugandan one. Only a few variables were different. For example, since evaluators had been working in the Fogera area before, they wanted to evaluate whether some activities had been implemented. The contextual variable “status of implementation of soil and water conservation activities” was incorporated in the framework. These activities are also linked to the Ethiopian governmental campaigns which aim at mass-sensitization of farmers on soil and water conservation. As a result, the variables “existing knowledge about NRM” and “societal discourse” were included in the context cluster. But these NRM activities are hindered by major social issues (e.g. preconceptions held by decision makers about farmers’ inability to support NRM). Since these constraints are usually not taken into consideration or discussed, even though they impact the process and its outcomes, evaluators felt that “existing challenges and potential solutions for NRM” should be incorporated as a context variable.
Monitoring and evaluation methods were developed in both case studies to inform these variables (see section 4.4.4). Before the beginning of the process, a context analysis was made on each case study through a baseline study (Migongo-Bake & Catacutan, 2012; Migongo-Bake, Catacutan, & Namirembe, 2012), a document review and four to five preliminary open qualitative interviews. A stakeholder analysis of each case study was made based on this information. Procedural (formative) and once-off (summative) M&E methods were then set up to monitor and evaluate the process on a daily basis, as well as during specific workshops. These included a “logbook” (based on Etienne, 2011), attendance lists, expectations, interviews, pictures and videos, participant observation and questionnaires. 40 to 54 interviews were undertaken in each case study by evaluators, trying to balance conditions in terms of gender, geographical provenance and profession. More than 100 questionnaires in each case study were also completed by participants after the workshops.

Data collected through these methods was analysed and coded following both an inductive and deductive process (Fereday & Muir-Cochrane, 2006). Process-tracing (George & Bennett, 2005) was then used to identify which contextual and procedural variables from the M&E frameworks presented in Figure 6.2 and following paragraph acted as drivers of institutional dynamics. Process-tracing is a method which “attempts to identify the intervening causal process [...] between an independent variable (or variables) and the outcome of the dependent variable” (George & Bennett, 2005, p.206).

It is important to note that we view the social-environmental systems under consideration as complex and adaptive systems. These systems are constantly evolving and their dynamics are triggered by a multiplicity of causes. Therefore we do not look at causal chains but rather at causal clusters, as advocated by Young (2008). The figures presented in section 6.5 must be read by keeping this in mind: the drivers identified on the left hand side act as clusters. Only links for which evidence could be found in the interviews, participant observation, reports or other data collected through the M&E methods are represented. Nevertheless, many other interrelations exist for which we may not have been able to obtain any evidence.

Given potential limitations in our capacity, as researchers, to measure institutional dynamics based on the fact that many events and relationships happen in the background, away from the focus of our participatory planning processes and that we may not be aware of, we attempted to limit this risk by involving participants in the M&E of the process and by triangulating the data collected. The use of role-playing games (based on Wat-A-Game toolbox: Abrami et al., 2012; Ferrand et al., 2009) was also very useful as it led participants to reveal their social norms and cultural beliefs, rationalities,
preferences and values, as well as views of power relations and inequalities which they may not otherwise have explicitly stated in interviews or during the process.

Finally, a last precaution in interpretation of results must be taken related to the drivers: only direct drivers were identified, and not “drivers of drivers”. Even if we acknowledge that the drivers identified have been caused by others, tracing these “second degree” drivers is extremely difficult and reliable evidence has not been found in our cases.

6.4 Introduction to the two cases

The participatory planning processes involved about 50 participants in each case and lasted 16 months in Uganda and 10 months in Ethiopia between 2012 and 2013. Participants were meso-scale stakeholders (actors with an interest in regional-level rather than community- or national-level affairs) having a connection with NRM or one sub-domain. These included farmers, development agents, religious and cultural leaders, representatives of local governments, civil society, media, universities and the private sector. In Uganda, the process was extended to the local scale in 35 farming communities and to the national scale through the involvement of parliamentarians. In Uganda, the facilitating team was composed of lecturers from a community-owned university called Mountains of the Moon University (MMU) while in Ethiopia, it was researchers from international research institutes based in Addis Ababa. Both teams were supported from other researchers from the AfroMaison project. The NRM context of the two cases is briefly described here and the regions visualized in Figure 6.3. For a detailed description of the Rwenzori and Fogera cases, see sections 7.3 and 7.4.
The Rwenzori is a Mountain range located in western Uganda, at the border with the Democratic Republic of Congo. The case study site covers 14,000 km² (AfroMaison, 2014c) over seven districts and a population of about 2.4 million people. The main social and environmental issues in the area include massive deforestation and overexploitation of land and natural resources, including wetland encroachment, intensification of agriculture and pollution and depletion of freshwater resources. Regular food shortages and diseases outbreaks occur, adding to the burden of a population which is already partly below the poverty line. In terms of formal institutions, Uganda has a fairly comprehensive list of legislation and policies related to the governance and utilization of natural resources. From 1992, NRM was devolved to the local governments, shaped by a five-tier structure.
Drivers of environmental institutional dynamics in decentralized African countries

Environment committees and environment officers are responsible for community engagement and implementation of NRM laws. However, lack of governmental funds, heavy workloads and corruption impede adequate implementation of this legal framework. In parallel, many environmental civil society and community-based organizations are active in the region. They work closely with local stakeholders whose traditional informal institutions partly shape the use of natural resources. Since 2003, regional civil society organizations, later joined by other stakeholders, have gathered under a coalition called the Rwenzori Regional Development Framework (RRDF).

In Ethiopia, the case study site is the Fogera woreda, which is part of the largest catchment bordering Lake Tana, the Gumera catchment, at the source of the Blue Nile. The area is 1,030 km$^2$ in size with a population of about 230,000 people. Rapid soil degradation, siltation of the lower plains and deforestation are the main environmental issues, leading in turn to increasing food insecurity and poverty. Formal institutions related to NRM are quite strong, with mass awareness-raising and training campaigns launched by the Ethiopian government to increase food security at the national scale. The campaigns are implemented through the four-tier decentralized system (regions/zones/woredas/kebeles or peasant associations) of which the key actors are the development agents (DAs). The presence of international and local NGOs in the area is significant, along with traditional social organizations (“gott”, “eder” and “ekoub”).

6.5 Results: drivers of institutional dynamics

In this section, we investigate three selected institutional dynamics in each case study, in order to identify their contextual and procedural drivers.

6.5.1 The Rwenzori case, Uganda

6.5.1.1 Social learning: informal organizational change (U1)

The first dynamic which we consider is an informal organizational change: social learning. Social learning is organizational as it concerns a group of individuals, the workshop participants, and informal
as it is created, communicated, and enforced outside of officially sanctioned channels. In the Ugandan process, social learning was observed through increased dialogue between representatives of local authorities who were present and other participants, notably community and civil society representatives. This dialogue concerned collectively-held views, for example about stakeholders managing conservation areas serving the interests of foreigners (Kabaseke, 2012) or rich people being the primary responsible for pollution. It also involved experience sharing about concrete environmental and conservation practices. Questionnaires and interviews revealed that relationships among participants changed, with tighter links created among “champions” and increased will to engage in joint NRM and conservation activities. Overall these generated higher level of trust among some of the participants. Organizational changes were also observed through participants requiring other stakeholders to be invited to future workshops and the constant change of the group size. Figure 6.4 illustrates the drivers identified for the “social learning” informal organizational change in the Ugandan case. These drivers and their influence on social learning are further explained in the following paragraphs. Each driver is noted in italics in the text.
As illustrated in Figure 6.4, various contextual drivers influenced this change. Social inequality issues, pertaining to the socio-economic context, is one. Many local government members are held responsible for the poor implementation of environmental policies. As revealed in the interviews, “rich people” are also often perceived as being primarily responsible for natural resources degradation as they “build houses on protected wetlands thanks to corrupted environment officers” and “own polluting business such as illegal car washing bays”. Uganda is ranked 142 out of 175 countries for corruption according to Transparency International’s 2014 Corruption Perceptions Index (Transparency International, 2014), with rank #1 indicating least perceived corruption. It is the
recognition of these inequalities and this gap in existing formal and informal institutions that triggered the various participants, whether being the target of these perceptions or not, to communicate about other stakeholders’ constraints and rationales for exhibiting such behaviours. The organizational and relational context also played a role in that existing social networks fostered open discussions and creation of new social linkages among some participants.

In terms of procedural drivers, the presence of representatives from the National Forest Authority (NFA) and Water Management Zones, allowed them to voice their own constraints and to share experiences with other participants with whom they do not usually directly communicate. In parallel, the absence of certain decision makers (lack of representativeness), especially environment officers, staff from the Uganda Wildlife Authority or the Mpanga Catchment Management Organization, who were invited but absent reinforced mistrust towards them. This aspect was highlighted by the role-playing game in which the role of the environment officer had to be played remotely from the table and with only occasional interactions allowed with other players. The fact that participants spoke on behalf of their player and not themselves in the game empowered them to voice social inequalities and constraints which they did not voice during other phases of the participatory process. In that sense, the game was a powerful tool to allow social learning. The involvement of many participants early in the process, the fact that they attended several workshops in a row (repetition of the process) as well as the possibility for all to express themselves (fairness in expression), all contributed to social learning. Questionnaires and interviews revealed that the fact that the process was at multiple scales, namely local, meso and national, allowed direct social learning across scales. Finally, problem framing was a key stage of the process in terms of fostering social learning. Participants could discuss their systems of practice, knowledge and beliefs regarding NRM. Prioritization of problems to be addressed created or split coalitions as not everyone agreed on priorities identified.

6.5.1.2 Endorsement of the plan by the RRDF: formal institutional emergence (U2)

The second major dynamic that took place was formal institutional emergence. In May 2014, the Rwenzori INRM plan, which resulted from the participatory planning process, was endorsed by the previously introduced RRDF. By endorsing the plan, the RRDF officially took over the coordination and monitoring of its implementation. This endorsement is a formal institution as it is shared by all the members of the RRDF and an explicit written document. For the members of the network,
implementing the plan is not binding (no official sanction) but if they have agreed to it, they are expected by other members to do so (social sanction). The dynamic can be classed as emergence since there was no similar pre-existing arrangement. Figure 6.5 illustrates the drivers identified for the “endorsement of the plan by the RRDF” formal institutional emergence.

**Figure 6.5. Drivers of the “endorsement of the plan by the RRDF” formal institutional emergence in the Ugandan case**

Two interviewees mentioned that the plan endorsement partly resulted from the fact that the RRDF, which had been created in 2003, was well organized but had trouble to start working in practice (organizational context). This provided an opportunity for the output of the participatory planning process to be adopted and “institutionalized” by an existing organization. The plan also benefited from the “code of practice” (existing formal institution) which had previously been signed by RRDF members and encouraged them to be collectively involved in NRM activities (JESE RRDF Environmental Cluster Meeting report, unpublished 2013). Existing relationships between JESE, an NGO hosting the environmental cluster of the RRDF and facilitators was an additional driver that was strengthened by the efforts provided by two champions who were key in driving the integration process between AfroMaison and the RRDF. These champions also lead the dissemination of the game which “gained popularity not only among grass root communities but [also] caught global attention and is on demand by neighbouring countries such as Kenya and reputable universities in France, Belgium, Denmark and the U.K.” (JESE RRDF Environmental Cluster Meeting report, unpublished 2014, p.2). This increased the legitimacy and credibility of MMU among local organizations, who perceived the university and the facilitators as having an increased capacity to receive support from international donors to implement projects and train university students in Europe.
6.5.1.3 Integration of MMU in the environmental cluster of the RRDF: formal organizational change (U3)

The third major dynamic is strongly linked to the previous one: it is the integration of MMU in the environmental cluster of the RRDF. In 2012, the RRDF was reorganized into four clusters, each with a “cluster host” and including different groups. This change (the integration) is organizational in that it concerns the group members and it is a change, and not an emergence process, as the RRDF pre-existed before the participatory planning process. Figure 6.6 illustrates the drivers of the “integration of MMU in RRDF” formal organizational change.

![Diagram showing drivers of integration of MMU in the environmental cluster of the RRDF]

**Figure 6.6. Drivers of the “integration of MMU in RRDF” formal organizational change in the Ugandan case**

Some drivers which lead to the endorsement of the plan also lead to the integration of MMU in the RRDF environmental cluster, notably the role of champions, the pre-existing social relationships and RRDF “code of practice” (formal institution) according to which “JESE’s role as a host institution was to strengthen the realization of the objectives of the environmental cluster through bringing together all cluster members to harmonize their approaches [and] activities” (JESE RRDF Environmental Cluster Meeting report, unpublished 2013, p.1). Since most members of the environmental cluster technical team were participants in the AfroMaison process (timing of involvement) and since the RRDF was
planning to endorse the Rwenzori INRM plan, it became obvious that MMU should become a member of the RRDF.

Yet, this change had previously been hampered by two drivers. The first one, revealed by one interviewee, is linked to past dissensions between MMU and Kabarole Research and Resource Centre (KRC), the lead agency of the RRDF, as a result of a previous attempt by MMU to absorb KRC. Therefore the existing organizational and relational context not only favoured, but also hindered the formal organizational change under consideration. The second one is the internal legitimacy and credibility of facilitators, and of champions in particular, within their own organization: MMU. Indeed, high-level administrators of the university required facilitators to justify all of their actions within AfroMaison project. They asked for an additional midterm evaluation in order to prove the added-value of the project for the university. This delayed many activities, and led to the final meeting, which was meant to gather RRDF members and AfroMaison participants, never taking place.

### 6.5.2 The Fogera case, Ethiopia

#### 6.5.2.1 Social learning: informal organizational change (E1)

The example of social learning in Uganda already gave us the opportunity to explain why social learning was considered as an informal organizational change. A social network analysis showed that both the nature and the direction of relationships among the stakeholders changed throughout the process, especially between decision makers and farmers. Before and at the beginning of the process, interviews revealed a prevalent attitude among decision makers that farmers are “backward, uneducated and unaware of problems and possible solutions”, and that “they need to be told what to do”. Therefore relationships were mostly unidirectional, from decision makers to farmers and strongly directive in nature. From the second workshop, new relationships appeared and became much more multidirectional. Specifically, questionnaires revealed that several farmers mentioned having created linkages with woreda experts. These two groups of stakeholders usually only rarely interact directly, as they are mediated by development agents. M&E also showed an increasing will from development agents and regional stakeholders to engage with university teachers and students. These two social spheres rarely interact since, as was outlined by a university interviewee “most academicians sit in the office” and don’t go to the field. This change became concrete when a joint conference on “Free
Grazing in Ethiopia: Challenges and Opportunities” was organized in Bahir Dar University in June 2014. Figure 6.7 illustrates the drivers identified for the “social learning” informal organizational change in the Ethiopian case.

Figure 6.7. Drivers of the “social learning” informal organizational change in the Ethiopian case

Several drivers influenced this social learning. As can be expected, the existing organizational and relational context plays an important role. It has both a negative and positive influence. The former is partly due to deeply anchored hierarchical power relationships in the Ethiopian society. There is greater respect given towards people with higher levels of education and, as many farmers are not educated, they are not as highly respected by decision makers. Similarly, the power that decision makers have to impose NRM decisions on farmers creates a negative influence. One facilitator mentioned “[decision makers] are afraid that participatory processes could work because then it would be more difficult for them to impose things on farmers”. This was strengthened by the lack of representativeness in participants’ selection. Since farmers participating in the process were mainly “model farmers” selected by the woreda administration, they often agreed with decision makers’ opinion, hindering social learning. Prevailing relationships are also resistant to change due to the fact
that decision makers often lack resources (gap in existing formal institutions) to go to the field and therefore cannot see farmers’ constraints.

But the relational context can also play a positive role. For instance, decision makers and farmers who belong to the same family are promoters in showing other participants that reciprocal relationships are beneficial. These stakeholders are often part of the community’s group of “champions”. In the Ethiopian case, one of the major drivers of social learning was the group setting: the fact that the process was held in parallel between decision makers and farmers with some key joint moments. At the end of the first workshop, when farmers presented their own plan to the decision makers, the latter were surprised about the articulation and soundness of the farmers’ plan and their perception and attitude towards farmers started changing. This group setting allowed a certain fairness in expression of the various participants during the process which was also positively influential. The group setting was influenced partly by the previous involvement of facilitators with participants. The focus group discussions and participatory video, made as part of a previous project by facilitators, illustrated the knowledge which farmers had of their area. The display of these results during the workshops contributed to social learning. Finally, the micro game used to discuss farmers’ constraints was very useful for farmers to voice their issues. The importance of this tool was reinforced by a specific group setting where decision makers sat behind farmers and were given an observers’ role only. This cluster of drivers ultimately led to informal organizational changes among the group.

6.5.2.2 Creation of a task force: formal organizational emergence (E2)

At the end of the final workshop, a decision was made to create a task force which would develop a proposal in order to find funding for the plan implementation. The task force also aims to support the implementation of the plan and its monitoring. It is organizational in that it is a group of individuals. It is formal in that its composition was written on a flipchart and subsequently transcribed in the workshop report which was distributed to all literate participants. Members publicly committed to be part of it. The task force has a name and is recognized by all participants. Finally, it can be classified as emergence as it does not build on a pre-existing organization. Figure 6.8 illustrates the drivers identified for the “creation of a task force” formal organizational emergence in the Ethiopian case.
The creation of the task force was fostered by various drivers. In terms of contextual drivers, most participants recognized during the process that pre-existing governmental approaches (or formal institutions) to stop free grazing had failed. This was a motivation to create a task force which would adopt a different approach, namely pilot demonstration sites and learning-by-doing rather than awareness-raising trainings. But formal institutions, and not only their limitations, also drove the creation of the task force. In parallel to the process, the Ethiopian government had announced its will to create task forces “starting from village level and up to the regional level”. This alignment with the government strategy reinforced the rationale of workshop participants to be part of the task force. Pre-existing relationships among the stakeholders also played a role in the task force. Many participants who volunteered to be task force members are used to working together and know each other well. However, the fact that many organizations have been established in the area to deal with agricultural issues made participants question the rationale for creating a new organization, as it risked being somewhat redundant with existing ones. In that sense, the organizational context also played a negative role towards the emergence of the task force.
In terms of procedural drivers, like for the technical committee of the RRDF in Uganda, all the members of the task force were people who had been involved from the beginning of the process and some became champions pushing for the outputs of the process to be implemented. Representativeness of the stakeholders in the process was also a positive driver. The workshop gathered representatives of major regional organizations having the legitimacy and credibility, as well as the capacity, to mobilize high-level stakeholders and to act on the actions listed in the plan. Therefore participants felt that they could move forward directly at the end of the workshop by creating a task force because the main stakeholders were able to participate in it. Facilitators also contributed to the creation of the task force. Firstly, knowing the situation, facilitators felt that the plan could only be implemented if a group was coordinating it. It was their idea and strategy and it was therefore added to the agenda of the third workshop. Secondly, the fact that facilitators belong to organizations who have the capacity to mobilize further funding was an argument to create a task force to move towards the plan implementation.

6.5.2.3 The terms of reference: formal institutional emergence (E3)

As in the Ugandan case, the terms of reference (ToR) are very linked to the creation of the task force. The ToR is a document drafted by facilitators indicating the requirements for developing a project proposal in order to implement the plan in the Fogera area. It details the roles and responsibilities of the various partners in implementing the plan. It represents formal institutional emergence as it is a written binding agreement, concerns rules and does not build on pre-existing arrangements. Figure 6.9 illustrates the drivers identified for the “terms of reference” formal institutional emergence in the Ethiopian case.
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Some drivers of the creation of the task force may have played a role in the ToR as well. We will consider in this section only drivers which are specific to the ToR. Such ToR are in line with existing formal institutions. The Livestock Regional Development Agency developed a regional guideline on communal grazing land management. This alignment prompted the development of the ToR. The lack of resources of the organizations involved in the task force to implement the plan (gap in formal institutions) also fostered the ToR as a step towards funding proposal development. Thirdly, the rationale for the ToR was also for task force members to increase the legitimacy and credibility of their involvement in the process within their own organizations. The draft ToR writes “representatives from the task forces will communicate the aims of the project and the ToR with their respective organizations, to raise the awareness and get official recognition”. This recognition is essential for task force members to be able to dedicate some of their working time to the follow up of the process.

This is also linked to a certain “culture of formalism” (informal institution) in Ethiopia which could be observed throughout the participatory planning process. Procedures are often made very formal. Therefore both facilitators and participants considered that having a task force and a ToR was a prerequisite for the plan implementation.

6.6 Discussion

6.6.1 Comparison of the institutional dynamics in the Rwenzori and Fogera cases

In both Fogera and the Rwenzori, participatory planning processes led to informal organizational changes (U1 and E1). These findings are not surprising as social learning is one of the expected outcomes and intended objectives of participatory processes (e.g. Schusler, Decker, & Pfeffer, 2003). The selection of participants that are representative of broader categories of stakeholders, the use of participatory tools such as role-playing games which promote discussion and exchange of experience, and the attention paid to provide all participants with an equal opportunity to speak, all contribute to social learning. Critical in this setting is the importance of the context, especially existing relationships among participants. In both cases, mistrust and reluctance to collaborate pre-existed between certain categories of participants. In Uganda, this mistrust was between farmers and “rich people” as well as government representatives. In Ethiopia, this mistrust was observed between farmers and woreda experts. Aware of these pre-existing dissensions, facilitators adapted the process to this context. For
example in Uganda, the role-playing game was adapted to bring these groups together. In Ethiopia, the main group setting chosen by facilitators was separating decision makers and farmers. We infer from this analysis the hypothesis that social learning is strengthened when existing relationships, including mistrust and conflict, are acknowledged by facilitators who use tools and strategies to have them discussed by participants.

In both cases, formal organizational dynamics took place (U3 and E2). However, in Uganda, the integration of MMU in the environmental cluster of the RRDF was a change while in Ethiopia, the creation of the task force was an emergence. This difference can partly be explained by the fact that in Uganda, a meso-scale formal organization, the RRDF, already existed which was considered by the participants as a legitimate organization in managing natural resources in the region. Participants therefore did not consider it necessary to create a new organization. In Ethiopia, environmental organizations with the mandate to manage natural resources at the meso scale are mainly the woreda administration and development agents. Both belong to the government. However, due to land redistributions in 1997, many farmers do not trust governmental organizations as they fear that they will take their land. Participants therefore felt the need to create an organization which would be representative of their diversity and would include farmers: the task force.

Finally, in both cases, formal institutional emergence took place (U2 and E3). In Uganda, this was observed by the endorsement of the plan by the RRDF while in Ethiopia, it was through the signature of ToR. Both resulted from a will to provide legitimacy to the organization responsible for plan implementation. Both were also expected to increase commitment and trigger action from the signatories.

In Ethiopia, organizational emergence (E2) preceded institutional emergence (E3) while in Uganda institutional emergence (U2) preceded organizational change (U3). In other terms, in Ethiopia the task force was created before the signature of the ToR whereas in Uganda, the plan was endorsed before MMU was integrated in the RRDF. M&E of the process did not provide any specific explanation for this. Although this has not been proved, one hypothesis is that past conflictual relationships between MMU and KRC slowed down the organizational process in the Ugandan case. However, as such relationships happen behind “closed doors”, it is difficult to find supporting evidence.

We conclude that in both cases, formal and informal, organizational and institutional, emergence and/or change were deemed necessary by participants to support the implementation of the plan and
ultimately the sustainable management of natural resources. Differences between the two cases demonstrate that participants crafted their own arrangements based on existing institutions and organizations and were influenced by past relationships and current opportunities. These findings support our argument that institutional dynamics occur through a process of bricolage. The next section analyses how institutional bricolage was triggered by taking a closer look at the contextual and procedural drivers identified in section 6.5.

6.6.2 Comparison of the drivers of the six institutional dynamics

The distinction between the three couples of terms, institutions and organization, formal and informal, emergence and change was of great value for the M&E of the process. Without making these distinctions, identifying the occurrence of the six dynamics would have been impossible. It allowed us, for instance, to differentiate between whether an element observed was a cultural belief or an actual institution. In terms of drivers, however, the comparison of the drivers identified in the previous section reveals that no significant difference appears between drivers of institutions vs. organizations, formal vs. informal and emergence vs. change. A sample of six dynamics restricts the derivation of robust insights in that respect. Making such a distinction would require the comparison of far more than six dynamics and two cases.

However, insights can be drawn as to which variables act as key drivers of institutional dynamics in general, whether formal or informal, organizational or institutional and emergence or change. These key drivers are of considerable interest for practitioners as they are aspects which may need to be emphasized when designing an intervention specifically targeting institutional bricolage. They are summarized in Table 6.2.
### Table 6.2. Key drivers of the six institutional dynamics investigated in this paper

<table>
<thead>
<tr>
<th>CONTEXTUAL DRIVERS</th>
<th>SOCIAL LEARNING (INFORMAL ORGANIZATIONAL CHANGE)</th>
<th>RRDF AND TASK FORCE (FORMAL ORGANIZATIONAL CHANGE AND EMERGENCE)</th>
<th>PLAN ENDORSEMENT AND TOR (FORMAL INSTITUTIONAL EMERGENCE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-economic context</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing formal and informal institutions (and gap in those)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Organizational and relational context</td>
<td>X</td>
<td>X</td>
<td>X (only plan endorsement)</td>
</tr>
</tbody>
</table>

| PROCEDURAL DRIVERS WHICH HAD BEEN ENVISIONED IN THE PRELIMINARY M&E FRAMEWORK |
|-----------------------------|-------------------------------------------------|
| Representativeness | X                                             |
| Fairness in expression | X                                             |
| Timing of involvement | X                                             |
| Repetition of the process | X                                             |
| Legitimacy and credibility | X                                             |

| SURPRISES: PROCEDURAL DRIVERS WHICH HAD NOT BEEN ENVISIONED IN THE PRELIMINARY M&E FRAMEWORK |
|---------------------------------------------|-------------------------------------------------|
| Scale (only in Uganda) | X                                             |
| Role-playing game | X                                             |
| Problem framing | X                                             |
| Champions | X                                             |
| Facilitators | X                                             |

### 6.6.3 Contextual drivers

The analysis of the drivers of institutional dynamics made in this paper confirms the important role of existing institutions and organizations in institutional emergence and change (e.g. Wakjira, Fischer, & Pinard, 2013). Indeed, for five of the six dynamics studied, both the organizational and relational context and existing institutions played a role in the dynamic under consideration. The dynamic was facilitated when aligned with existing formal institutions, as illustrated by the influence of the RRDF code of practice on the endorsement of the Rwenzori plan and on the integration of MMU in the environmental cluster of the RRDF, or by the role of the “regional guidelines on communal grazing land management” which supported the creation of the task force and the drafting of the terms of reference in Ethiopia.

The added-value of our study lies in revealing that it is not only the alignment of proposed changes to formal institutions which played a role, but also the gaps in existing formal and informal institutions.
Indeed, in Uganda, it is corruption (informal institution) and the failure of the government to implement NRM policies (formal institutions) which triggered social learning, as outlined in section 6.5.1.1. Similar examples are found in three of the five other dynamics studied. This is confirmed by several authors who underlined the importance of looking at the “progressive exhaustion of certain institutions by lack of adaptation, desertion of the stakeholders, succession of non-decisions or inertia” (translated from Lascoumes & Le Galès, 2007 citing Streeck & Thelen, 2005), deinstitutionalization (Dacin et al., 2002) or institutional failure (Acheson, 2006). We therefore suggest the importance of studying gaps or failures in existing formal and informal institutions as part of an institutional analysis.

6.6.4 Procedural levers

More importantly, our study looks at the specific drivers and clusters of drivers fostering institutional dynamics within a participatory planning process. The idea is that procedural drivers can be used as “levers” by participatory process facilitators to foster institutional bricolage. These key procedural drivers are listed in Table 6.2.

The first four procedural drivers listed in Table 6.2 are quite straightforward. They are often listed in the literature on participatory processes as key in the effectiveness of participatory processes (e.g. Rowe & Frewer, 2000). The added-value of our analysis is that it shows that these drivers have an impact on organizational changes, particularly social learning.

A specific comment can be made on the “legitimacy and credibility” driver. Legitimacy is highlighted by several authors as key in the institutional change process (e.g. Cleaver, 2012; Dacin et al., 2002). These authors emphasize the importance of the suggested institution to be seen as legitimate, or in other terms more appropriate, desirable, or viable than other alternatives. What came out of our analysis is that the legitimacy of the suggested institution partly relies on the legitimacy and credibility of the people involved in suggesting it. This includes the legitimacy of facilitators and the organization in charge of implementing the outputs of the process (in our cases the task force and the RRDF environmental cluster) from the participants’ points of view, but also the legitimacy of facilitators and of organization members within their own organizations. The latter, specifically, plays a major role in the outscaling of the institutional outcomes beyond the group of participants. In Ethiopia for instance, the members of the task force belong to local governments, public research institutes and universities.
It is only if these task force members are legitimate within their own organizations that these organizations will entrust them with the resources required to make the necessary changes and uptake the changes themselves.

Five procedural drivers appeared as “surprises” as they had not been envisioned as potentially playing a role in institutional dynamics in the preliminary M&E framework: scale, role-playing game, problem framing, champions and facilitators.

The fact that the process was developed at multiple scales played a major role in social learning in Uganda. It allowed the creation of relationships among stakeholders who usually only rarely have the opportunity to even meet. Indeed, adopting a multi-scale approach is seen by many authors as a way to reconnect bottom-up and top-down approaches and therefore to achieve INRM (Cash et al., 2006; Daniell & Barreteau, 2014; Leach et al., 2012; Lovell, Mandondo, & Moriarty, 2002).

The tools used during the process, and particularly the role-playing game, largely influenced institutional dynamics in both cases. They allow participants to voice their constraints, beliefs, worldviews and doubts and to discuss them. As such, they create relational and social learning, as well as changes in power relationships. In Uganda, it was because of the participants’ enthusiasm towards the role-playing game that facilitators decided to extend the process to the local level. This enthusiasm was shared by the participants and triggered organizational identification, or a feeling of identification towards the group. Concretely, this feeling translated into some local players asking to become “ambassadors” of the process and to get a T-shirt or a form of recognition that they were trained and had skills on NRM, planning and the game in order to be able to train people in other communities.

The problem framing was a critical phase which highly influenced institutional dynamics. Indeed, if the problem selected by the stakeholders matches with governmental priorities, it is more likely to generate formal institutional changes, in NRM laws and regulations for instance. At the same time, it is highly influenced by preferences of the stakeholders, but also by the facilitators’ ideas and preconceptions, and by contextual factors. For example, in Ethiopia, the choice of free grazing as the focal issue was strongly influenced by the governmental campaigns which partly focus on this issue. Therefore, it was emphasized during the process by influential stakeholders such as government representatives. The importance of managing the diversity of problem frames is evoked by several authors (e.g. Dewulf, Craps, & Dercon, 2004) but not necessarily as a driver of institutional dynamics.
However, it can also be related to policy framing which is largely addressed in the political science literature (e.g. Dovers & Hussey, 2013).

Champions equally influenced the dynamics under consideration. Some were facilitators while others were participants holding various positions such as representatives of local governments or NGOs, farmers or development agents. The commonalities among them were their interest in the process, their will for change and their access to human or financial resources through well-developed networks or influential positions within their organizations. Unlike problem framing, the role of champions as “change agents” (Stroud, 2003), “change teams” (Dacin et al., 2002), “institutional entrepreneurs” (Battilana, Leca, & Boxenbaum, 2009) or “intermediaries” (Scott, 2010) in institutional dynamics is widely evoked in the literature.

Our analysis also revealed the importance of facilitators in driving the institutional change process. In Ethiopia, the fact that facilitators were researchers with a certain level of education gave them legitimacy and credibility towards the participants. Their ideas, especially regarding the necessary changes to be made, were given consideration as information and expertise. In addition, their capacity as international researchers to mobilize resources from international donors and local governments generated a certain reliance on them for triggering formal institutional changes. Both in Uganda and Ethiopia, the previous involvement of the facilitators with the participants and local social networks provided them with knowledge of the power relationships and an ability to manage them through the process. In the Rwenzori case, the lack of legitimacy and credibility of facilitators within their own organization constrained the formal organizational change. All these aspects expose the need to identify from the onset who facilitators are, and whether they have social capital in the region, and also within their own organization, because they play a major role in triggering the institutional and organizational dynamics.

6.7 Conclusion

This paper aimed at identifying the contextual and procedural drivers of environmental institutional dynamics in decentralized African countries. It is based on the assumption that procedural drivers can be used as “levers” by participatory process facilitators to encourage participants to make their own institutional arrangements, that is, to foster institutional bricolage (see chapter 5). It built on the M&E
of two participatory planning processes in Uganda and Ethiopia to identify such drivers and levers and their interconnections. Our analysis led to two major conclusions.

Firstly, our analysis confirmed that institutional change is a process of bricolage during which institutional arrangements are hybridized between old and new ones. It therefore demonstrated the importance of looking at contextual aspects when doing an in-depth institutional analysis. Specifically, it highlighted the importance of looking not only at “working” formal and informal institutions but also at existing institutional gaps or failures.

Secondly, our analysis looked at the specific drivers which had an influence on the six institutional and organizational dynamics under consideration. We suggest that these drivers can be used as “levers” by facilitators to encourage institutional bricolage. The drivers identified in section 6.5 and discussed in section 6.6 can be grouped into three clusters of levers in function of their nature: participants, facilitators and the process.

Regarding participants, potential levers to trigger institutional dynamics are: (i) including participants which are representative of organizations and interests, (ii) including them as early as possible, (iii) trying to keep a retention rate throughout the process such that trust can be created throughout the various events, (iv) ensuring fairness in expression such that all stakeholders, especially the most vulnerable and disadvantaged ones, have the opportunity to express their opinions, and (v) pay specific attention to champions who are agents of change and specifically towards their legitimacy and credibility from participants’ points of view and within their own organizations.

Regarding facilitators, our analysis revealed the influence played by facilitators on institutional dynamics, which is often underestimated in institutional analysis and studies of participatory processes. Particularly, the legitimacy and credibility of facilitators from participants’ points of view and within their own organization, their capacity to mobilize resources such as funding or people, their previous involvement with the participants, their knowledge of social networks and power relationships, and their ideas and preconceptions about what institutional changes they would like to see in the area all influence the nature and occurrence of institutional dynamics.

Finally, regarding the process, three levers seem particularly key in fostering institutional dynamics: (i) engaging multiple scales in the participatory planning process, (ii) using participatory tools, such as role-playing games, revealing the complexity of the social-environmental system and allowing
participants to voice their constraints, beliefs, worldviews, doubts, and to discuss them, and (iii) managing the diversity of problem frames.

Six institutional dynamics is an insufficient sample to derive robust insights. Levers identified in this paper would need to be tested, for instance through experiments, to assess their applicability to a broader range of INRM situations. Future research could focus on using the process-tracing method in a systematic manner to compare larger samples of dynamics and cases. Ultimately, such systematic comparison could help practitioners to identify robust clusters of drivers and levers of institutional dynamics across diverse cases and contexts. It might also help in the identification of differences in terms of which contextual drivers or procedural levers are more likely to lead to which type of institutional dynamics, whether formal or informal, organizational or institutional and emergence or change, depending on the context.
Chapter 7 • Operationalizing multi-scale INRM in Africa: comparison of regional participatory planning processes in Ethiopia and Uganda

Abstract

In many countries, adaptive and Integrated Management of Natural Resources (INRM) is imperative but can be difficult to operationalize. This paper suggests the adoption of regional participatory planning processes as an approach to operationalize multi-scale INRM. It builds on the comparison of two cases, the Fogera woreda in Ethiopia and the Rwenzori region in Uganda, in which similar participatory planning approaches have been implemented, one at a single scale and one at multiple scales. The paper concludes by highlighting the triggering factors to encourage the extension of a natural resource management planning process to multiple scales. It also suggests that both the regional and the local scales be engaged simultaneously rather than using the regional scale as an entry point to the other scales. Finally, it suggests that for INRM operationalization, upscaling processes to the national scale may not always be relevant in the initial stages of the process and that instead, one or two key national players could be involved at the regional scale to enhance process legitimation.

Key words

Adaptive planning; downscaling; Eastern Africa; participation; scale; upscaling
7.1 Introduction

Natural resources are under increasing pressure in many regions around the globe, making their management imperative. In Africa and other regions facing similar challenges, Natural Resource Management (NRM) can be particularly complex: it needs to balance the demands and needs of different sectors, stakeholders and scales in a context where governance is often under-resourced and uncoordinated (AfroMaison, 2014a).

Therefore, NRM, in these regions especially, must adopt an approach which is:

- Integrative: across sectors, scales of management, and encompasses both social and environmental systems, and
- Adaptive: in a context of uncertainty and complexity, it needs to be flexible and able to cope with constantly-emerging challenges.

Research on adaptive and Integrated NRM (INRM) has led to the identification a number of “good practices” or “lessons learnt” for successfully operationalizing INRM. These include, among others, participation of relevant stakeholders at various scales, and horizontal and vertical institutional coordination between various governance bodies (Campbell & Sayer, 2003).

However, although these guidelines seem to offer a promising solution to existing NRM challenges, their translation into practical actions on the ground is not straightforward. Non-linearity of social-environmental systems, uncertainty and changing targets are some of the difficulties for operationalizing INRM, to name but a couple (Campbell & Sayer, 2003). These challenges call for dedicated approaches to operationalize INRM.

Multi-scale participatory planning appears as one possible approach to tackle these challenges and operationalize INRM. “Participatory planning is a process usually designed to address a specific issue, opportunity or problem with the intent of resolving or exploiting it successfully through the collaborative efforts of the crucial stakeholders” (UN Habitat, 2001, p.20). We define “scale” as per the Oxford Dictionary’s definition as “the relative size or extent of something”. NRM occurs at multiple scales: from the national scale, where strategic priorities and policies are set, to the local scale, where the use of natural resources takes place. Multi-scale participatory planning therefore involves engaging stakeholders at various scales to develop multi-scalar action plans destined to address their social-environmental issues of concern.
There are a number of inter-linked reasons for considering multi-scale participatory planning as a relevant approach to operationalize INRM. First, engaging relevant stakeholders in environmental planning increases their ownership of the resulting plan and policies, along with their understanding of the social-ecological system (Gonsalves, 2000). It also increases trust and collaboration. Altogether, these outcomes lead to improved collaborative actions and decisions (Barreteau et al., 2010). Second, planning is an integral part of the management process. Building participants’ planning skills therefore contributes to building stakeholders’ institutional capacity to manage their natural resources. Third, engaging multiple scales strengthens the coordination among government institutions and with other stakeholders at various scales, therefore fostering “institutional interplay” (Cash et al., 2006). Fourth, multi-scale participatory planning allows to gain an understanding of the dynamics and needs at global, regional, national and local scales and their interconnections, therefore allowing to overcome the cognitive processing of complexity-based challenges (see chapter 2). Overall, multi-scale participatory planning increases the potential of arriving at coherent and acceptable INRM plans and at their successful implementation (Daniell et al., 2010a).

However, engaging simultaneously multiple scales and stakeholders in a planning process may face a number of issues related to time, space, institutions, and environments (e.g. Gonsalves, 2000; Lovell et al., 2002). A step-by-step approach is therefore required. Many authors and practitioners working on multi-scale participatory planning advocate for starting from the local scale and “going to scale” (e.g. Gonsalves, 2000; Ridder & Pahl-Wostl, 2005), in other words, up and outscaling from pilot processes to institutionalized processes across countries or continents. Yet in most cases, up and outscaling do not occur spontaneously (Hassenforder, Daniel, & Noury, 2012a; Sreedevi & Wani, 2009). Stakeholders who were not involved in the pilot process are often reluctant to implement plans which they have not contributed to. Moreover, scaling up and out requires detailed contextual investigations (Lovell et al., 2002) which are rarely undertaken.

In reaction, INRM researchers and practitioners have started investigating the potentiality of using the regional scale as an entry point to other scales (e.g. Gibbs & Healey, 1997). This approach involves starting to work at the regional scale before scaling up and down respectively to larger and smaller scales. The regional scale is understood here as a spatial intermediary dimension between local, or community scale, and national scale. This is the scale at which strategic plans and policies can be scaled down and successful local practices can be scaled up. It therefore appears to be an appropriate scale to start with in order to facilitate integration, both vertically (from local to national) and horizontally
Operationalizing multi-scale INRM in Africa: comparison of regional participatory planning processes in Ethiopia and Uganda (across resources and sectors) (Allan, 2004). It is also increasingly proposed as the appropriate scale to interface regional analyses with global analysis and practice (Glaser & Glaeser, 2014).

However, rigorous monitoring and evaluation (M&E) of multi-scale participatory planning processes, their contexts and their impacts is still often lacking to define how such processes can be effectively and efficiently designed, put in place and improved over time (Daniell et al., 2010a). In addition, research on these processes often rely on single case studies, preventing generalizations over the effectiveness of such approach across cases (Deyle & Slotterback, 2009).

This paper aims at assessing the conditions and challenges for operationalizing multi-scale INRM through regional-scale participatory planning processes, in Africa and other regions facing similar challenges. It draws upon the comparative experience gained through the rigorous M&E of two case studies. This paper has three innovative aspects. First, it sheds light on two regions rarely cited in the literature: the Rwenzori region in Uganda and the Fogera woreda (district) in Ethiopia. Second, it builds on the rigorous M&E of two cases, based on a mixed methods approach (Johnson, Onwuegbuzie, & Turner, 2007) and participatory intervention position (Midgley, 2000). Third, it allows the comparison of two cases monitored and evaluated using a similar protocol. Both cases also used the same participatory planning approach, presented in the next section, but there was a major difference in the scale of implementation. In Uganda, the planning process was spontaneously extended at various scales starting from the regional scale, down to the local scale and up to the national scale. In Ethiopia, the process was only implemented at the regional scale but in parallel between a group of decision makers and a group of farmers. These two cases therefore provide us with a suitable ground for studying the drivers and strategies of scaling.

We start by outlining the participatory planning approach and the areas where it was applied. This is then followed by in-depth descriptions of the participatory planning implementation in each case (sections 7.3 and 7.4). In section 7.5, a comparative discussion reflects on the drivers of the uptake of the process from the regional scale to multiple scales, and draws lessons for downscaling and upscaling future processes. Questions for future reflection and research are then provided in the conclusion.
7.2 The suggested approach: regional participatory planning processes

Based on the considerations highlighted in the introduction, a European Union funded research project called AfroMaison was launched in 2010. AfroMaison’s objective was to "contribute to put into practice the concept of INRM at the meso [regional] scale in Africa" (AfroMaison, 2014a). Part of this project was dedicated to the development and implementation of participatory planning processes for INRM at the regional scale. Five study areas were selected for the project: the Oum Zessar watershed in Tunisia, the Inner Niger Delta in Mali, the Fogera woreda (district) in Ethiopia, the Rwenzori region in Uganda and the Drakensberg in South Africa. Seven criteria were taken into consideration for the selection of those areas: 1) multiple use landscapes; 2) strong competition of uses and degradation of natural resources; 3) high vulnerability to global change; 4) strong local partners; 5) established networks with stakeholders and authorities; 6) existing projects on ecosystem services, economic incentives, spatial, livelihood and vulnerability mapping, scenario-building or participatory planning; and 7) area size between 5,000 km² and 50,000 km² (AfroMaison, 2014a).

The participatory planning process, adapted from the AquaStress project (Ferrand et al. 2006), had six phases:

1. **Procedural agreement**: design and validation by facilitators and key stakeholders of the different steps of the process to match with the local context.

2. **Focal issue identification**: discussions among participants on a common long-term objective and elicitation of their perspectives, values and preferences.

3. **Action proposal**: brainstorming among participants on the potential actions likely to address the focal issue. Actions stemming from expert knowledge are suggested for approval by participants. A generic action template is provided to specify and discuss the needed resources and expected impacts.

4. **Selection and integration of actions**: selection and organization of actions in time, space and organizational scales using the CooPlan (COOperative PLANning) matrix. Discussion among participants on the feasibility, coherence and efficiency of the resulting plan based on resource needs and expected impacts.

5. **Test of the plan using a role-playing game**: exploration of the plan using a role-playing game (based on Wat-A-Game toolkit: Abrami et al., 2012; Ferrand et al., 2009) developed concomitantly by facilitators and researchers with multiple inputs from participants. The plan and game are readjusted “on the way”.
6. **Implementation plan**: agreement among the participants on the procedure to operationalize the plan: specification of the steps, resources and commitments needed using an implementation matrix.

A M&E framework was also developed and implemented to monitor and evaluate the participatory planning process (see chapters 3 and 4). Evaluators included facilitators (local and international researchers) and key participants. A “logbook” (Etienne, 2011) was filled in by evaluators on a daily basis recording all interactions, events and other external factors taking place in the area. Each workshop was monitored using attendance lists, participants’ expectations, pictures, videos, participant observation and questionnaires. Interviews were undertaken by evaluators at various stages of the process. Interviewees were facilitators, participants and non-participants. Selection of interviewees was made using purposive and snowball sampling techniques. The data collected with these M&E methods was transcribed and coded by evaluators immediately after collection following both an inductive and a deductive process (Fereday & Muir-Cochrane, 2006)\(^\text{18}\).

Two of the five AfroMaison cases were selected for in-depth investigation due to their early uptake of planning processes and the interest of facilitators in such a reflection: the Fogera woreda in Ethiopia and the Rwenzori region in Uganda. Their localization is shown in Figure 7.1.

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\(^{18}\) For a complete description of the participatory planning process and M&E protocol, see Ducrot et al. (2014).
7.3 The Fogera case, Ethiopia

7.3.1 Context

The study area in Ethiopia is the Fogera woreda, in the Amhara region, which is part of the largest Gumera catchment bordering Lake Tana, 625 km north of Addis Ababa. Lake Tana is part of the headwaters of the Blue Nile (see Figure 7.1). The size of the area is 1,030 km²\(^2\) with a population of

\(^{19}\) The original area selected was the entire headwaters of the Blue Nile (172,254 km\(^2\)) but was then restricted to the Fogera district only.
about 230,000 (Migongo-Bake et al., 2012). The region has temperatures of 16 to 20°C on average and a mono-modal rainfall pattern, with rains occurring from June to September (Migongo-Bake et al., 2012).

The majority of the land is dedicated to crop production with mixed crop-livestock systems. Irrigated crops include a large amount of rice, as well as vegetables, maize and legumes. Rainfed crops comprise millet, teff, barley and wheat (Migongo-Bake et al., 2012). Livelihoods of the local population are highly dependent on natural resources through the sale of crops, other agricultural products, sand, stone, livestock and timber. Poor management practices and intensification of agriculture have led to rapid soil degradation, siltation of the lower plains and deforestation, which have led to increasing food insecurity and poverty. State ownership of the land has led to problems. Amhara is the only region in Ethiopia which has undergone land redistribution (Benin & Pender, 2001). When this occurred in 1997, many farmers lost portions of their farmland, which resulted in high tenure insecurity, decreasing incentives for farmers to invest in land improvements and land-related political tensions.

NRM in the area is marked by the strong will of the Ethiopian government to increase food security by intensifying agricultural productivity while reducing soil degradation. This is translated in action by mass awareness-raising and training campaigns at the national scale. Since 2011, the campaigns have attempted to engage all farming communities for 30 days during the dry season to construct physical soil and water conservation structures. The campaigns have unfolded through the four-tier decentralized system (regions/zones/woredas/kebeles or peasant associations) and the development agents (DAs). These agents work closely with the “one-to-five system”, one model farmer family out of every five households working hand-in-hand with the government, and the “gott” or “development teams”, which each gather about 30 households together. Since Fogera woreda is near a town, many NGOs are intervening and organizing workshops in the area, leading to a certain stakeholder “fatigue”.

7.3.2 Facilitators

Facilitators designing, implementing and managing the participatory process in Ethiopia were eleven researchers from international research institutes based in Addis Ababa and in France. The past involvement of facilitators with the stakeholders in the study area, including through an innovation platform and a participatory video, was valuable both in terms of knowledge of the area and good relationships with the participants. Workshops were conducted in Amharic.
7.3.3 Participants

There were 38 to 52 participants taking part in each of the three workshops that occurred in the process (see section 7.3.4. for descriptions of these workshops). Figure 7.2 shows the representativeness of the participants in terms of gender, occupational categories and geographical provenance across the various workshops. Except for regional participants who were invited by facilitators, selection of the participants was made by the Fogera woreda administration and development agents (DAs) based on facilitators’ requirements for participant selection.

**Figure 7.2. Participants in the Fogera process**

*Farmers* include religious leaders and kebele chairmen. *Regional participants* include staff from the regional government, research institutes, universities and NGOs.
7.3.4 Process

The participatory planning process was implemented with participants through a series of three one-to-three days’ workshops over ten months, from December 2012 to September 2013. The specificity of the Fogera process was that it was implemented in parallel between two groups: decision makers in one room and farmers in the other. At key moments, participants were brought together to discuss their respective outcomes. The objective of such setting was to bring in power and representation issues and to bridge the gap in respective understandings between the two groups (Daniell et al., 2010a).

Phase 1, procedural agreement, was agreed upon by facilitators prior to the first workshop. This phase also included the development by facilitators of the Fogera regional role-playing game.

The first workshop, in December 2012, focused on phases 2 to 4 of the operational framework (see section 7.2). The Fogera game was first used by each group to broaden participants’ understanding of their system and foster discussions and brainstorming on issues of concern and existing practices. Focal issues were then identified and prioritized (Phase 2). Decision makers listed six categories of focal issues, among which four “very important” issues including land use problems, free grazing, awareness raising and lack of planning and implementation. Farmers identified three categories of focal issues. The biophysical category was prioritized as “very important” and included five specific issues: soil fertility decline, water availability, unrestricted grazing, deforestation and soil erosion. This was followed by a brainstorming on potential actions to address these focal issues using action templates (Phase 3). The actions were then organized in time, space and organizational scales using the CooPlan matrix and the game board (Phase 4). Participants discussed the feasibility and efficiency of their plan after allocating the resource needs for each action, including money, labour and knowledge, using the game pebbles. The first workshop ended with a presentation of the farmers’ plan to decision makers and vice-versa. This led to thought-provoking discussions on the different perspectives of each group on the timing, prioritization and choice of actions as well as on the rationale and constraints behind those. Decision makers especially, who usually perceive themselves as “experts” and farmers as unable to plan, changed their attitude towards farmers when they discovered farmers’ plan.

The second workshop was dedicated to the refocusing and merging of the two plans into one. This was triggered by facilitators who feared that the plans made during the first workshop would neither be
feasible nor effective as they were too broad and not tailored to the landscape. The participants started all together by debating on a refocused priority issue. After a vote with a show of hands, they agreed on free grazing (Phase 2). The next step involved agreeing on a common time frame for the implementation of the plan. Another vote settled the arrangement to a three-year time frame (one year per short/mid/long term starting in September). Decision makers and farmers were then separated again in order to refocus the plan to the newly agreed focal issue while reducing the number of actions to priority ones (Phase 3). The result was two regional plans including only about 18 actions each. The two plans were then merged into one in a plenary using a CooPlan Matrix (Phase 4). The second day of the workshop was dedicated to playing the game to reflect on potential barriers and constraints to implementation (adaptation of Phase 5). The end of the workshop was dedicated to detailing actions included in the plan, potential barriers and solutions (beginning of Phase 6). For this exercise, participants were split into three groups depending on their geographical provenance (upland/midland/lowlnd). Before closing, these matrices were presented to other groups by each facilitator.

The third workshop took place in September 2013. Its primary aim was to discuss in-depth the implementation of the plan and constraints of the respective stakeholders (Phase 6). Discussions around constraints and incentives for farmers were triggered by a story-telling about a farmer opposed to controlled grazing, followed by a local game focusing on three households, and a plenary session with both groups present. Decision makers could then discuss their own constraints and incentives through group discussions (regional/woreda/DAs/farmers) based on a story-telling about a DA. The groups were then able to exchange their respective perspectives through a “world café” session (Brown, 2005). Implementation plans were then developed, based on considerations previously discussed. Actions were placed in a matrix displaying who would do what, and when. The three implementation matrices for upland, midland and lowland areas were presented the next morning in a plenary session by a representative of each group. The workshop ended by discussing the way forward. A task force was created at three levels, region, zone and woreda, with self-appointed members to overview plan implementation. Regional members agreed to write proposals, with the support of facilitators, to seek funds to implement the plans in three pilot villages. Terms of reference were drafted in early 2014 by facilitators. They were endorsed by the task force on the 3rd of July 2014 and a workshop for writing the proposal was planned.

Figure 7.3 illustrates the Fogera process.
Figure 7.3. The Fogera process

7.4 The Rwenzori case, Uganda

7.4.1 Context

The study area in Uganda is the Rwenzori mountain range located in western Uganda, at the border with the Democratic Republic of Congo (see Figure 7.1). The Rwenzori region covers 14,000 km² (AfroMaison, 2014a) over seven districts and has a population of about 2.4 million. The region, which is part of the White Nile basin, hosts several river systems, lakes, wetlands and crater lakes, as well as four national parks. These features constitute major tourist attractions to the region. The tropical climate, bimodal annual rainfall system (NEMA, 2004), as well as the past volcanic activity have made soils fertile (Migongo-Bake & Catactutan, 2012). The Rwenzori region is predominantly inhabited by smallholder farmers who engage in subsistence farming. Major crops grown include coffee, cotton, banana, cassava, beans, maize, groundnuts, sweet potatoes and Irish potatoes. Some farmers keep
livestock such as poultry, goats and cattle. Some large-scale farmers are engaged in commercial farming, especially tea plantations.

Poor land use practices such as bush burning, fuel wood harvesting and unsustainable timber harvesting have led to deforestation, soil erosion, landslides and floods (Plumptre, 2002). Land degradation, amid climate change and high population growth rates, has also led to food shortages and disease outbreaks (Migongo-Bake & Catactutan, 2012). This makes the region economically vulnerable given that the majority of the people are below the poverty line (UBOS & ILRI, 2007).

Uganda has a fairly comprehensive list of NRM legislation and policies. From 1992, NRM was devolved to the local governments (Onyach-Olaa, 2003), shaped by a five-tier structure (district/county/subcounty/parish/village). Environment committees and officers are responsible for community engagement and implementation of NRM laws. However, lack of governmental funds, heavy workloads and corruption impede adequate implementation of this legal framework. Other important issues in the region include tribal conflicts, rebel attacks and problems of land tenure due to the reinstatement of the kingdoms in 1993. Few international donors are still active in the region. Since 2003, regional civil society organizations, later joined by other stakeholders, have gathered under a coalition called the Rwenzori Regional Development Framework (RRDF) (RRDF, 2011). For a detailed description of the Rwenzori case context, see section 5.4.

### 7.4.2 Facilitators

Facilitators in Uganda were six local researchers from Mountains of the Moon community University (MMU) in Fort Portal, supplemented by French researchers of the AfroMaison project. Local facilitators originate from the area and are involved in NRM in the region. Regional workshops were held in English, which is the official language in Uganda. At the end of 2012, facilitators decided to extend the process to the local scale. A partnership was created with the Sustainable Agricultural Trainers Network (SATNET). SATNET works through a network of community process facilitators (CPF) originating from and based in about 50 communities. Five “rapporteurs” were hired to monitor the process in the communities.
7.4.3 Participants

There were 29 to 68 participants involved in the four workshops of the regional process (see section 7.4.4 for a description of the workshops). Figure 7.4 shows the representativeness of the participants in terms of gender, occupational categories and geographical provenance across the workshops. It also indicates the involvement of the participants in the various workshops. Selection of participants was made by facilitators based on criteria discussed during the procedural agreement.

Concerning the local-scale process, 35 communities were involved with an average of 17 participants per group. Among local participants, 46% were women, 38% were men and 17% were children. The vast majority were farmers and pastoralists. These local groups were scattered throughout the Rwenzori region.
Operationalizing multi-scale INRM in Africa: comparison of regional participatory planning processes in Ethiopia and Uganda

Figure 7.4. Participants in the Rwenzori process

21 Government participants include mainly representatives of the subcounty, district and Ministry of Water and Environment. Private participants include mainly small-businesses owners. Major tea companies were not represented.
The participatory planning process was implemented with the regional group of participants through a series of four two-to-three days workshops over 16 months, from April 2012 to July 2013. The specificity of the Rwenzori process was that it was implemented at multiple scales. It started with a group from the regional scale, extended later on to the local scale while in parallel trying to engage stakeholders from the national scale. This choice to up and downscale the process resulted partly from the will of Ugandan facilitators to involve local communities and national stakeholders, their enthusiasm towards the process, and the game in particular, as well as from an opportune partnership with SATNET, as will be discussed in section 7.5.

Similar to Ethiopia, the first workshop focused on phases 2, 3 and 4 of the operational framework (see section 7.2). Phase 1 had been agreed upon prior to the workshop. The main difference from the Ethiopian process was that participants were divided into three mixed-groups, and not two groups of farmers/decision makers. Each group started by identifying a focal issue through a scenario-building exercise (Phase 2). Three focal issues were identified: sustainable development through NRM, poverty and sustainable land use management. The participants then decided to merge these three issues into one, “sustainable NRM for socio-economic development”. Unlike in Ethiopia, an additional phase took place during which participants reflected on indicators that could be used to assess successful progress in their focal issue area. Phases 3 and 4 were then developed similarly to the Ethiopian process, although without using game elements as a support.

The second workshop was dedicated to feedback on and testing of the three plans previously established (Phase 5). Participants reflected on the three plans as a whole group and in smaller settings. They played two rounds of the Ugandan-specific role-playing game representing their current situation. The objective was to foster reflection on existing social and environmental issues in the region. The next day, participants tested the plans using the game. The workshop ended with a debriefing about the game’s and plans’ improvement as well as a discussion on and commitments towards the follow up of the process (preparation of Phase 6).

The third workshop, in January 2013, involved regional decision makers in the process. The chairman, speaker, ministry in charge of production, and environment officer of each of the seven districts of the Rwenzori were invited. Facilitators believed that their attendance in the two previous workshops was insufficient in view of their role in plan implementation. The workshop lasted only one day, during
which they were briefed on the previous workshop achievements, played the game and discussed about their future involvement in the process.

### 7.4.5 The local process and final multi-scale workshop

In January 2013, the process started at the local scale. Some 32 CPFs, working with SATNET, were trained on the participatory planning process, game facilitation and M&E from November 2012 to April 2013. Between January and June 2013, each CPF organized one to seven game-playing workshops with community members. These game sessions, followed by long debriefings, were used to foster discussion and suggest innovative actions among local communities to improve their livelihoods and better manage their natural resources. M&E showed that the workshops significantly raised participants’ awareness about their social-environmental systems. In June 2013, one workshop per group was dedicated to the development of a local plan using the knowledge gained with the game.

The fourth and final workshop was held in July 2013. Participants included the regional group of stakeholders, 26 CPFs and 13 district leaders. The objective of the workshop was to merge the three regional plans and the 27 local plans (some communities stopped the process or could not draft their plan in time) into one “Rwenzori regional INRM plan” and to discuss its implementation (Phases 5 and 6). Participants were divided into five mixed-groups of 10 to 15 people. The five groups were: upland, midland, lowland, cross-regional scale and one of decision makers who had never played the game. Each group, except the decision makers, prepared a plan for its dedicated spatial scale by selecting actions from existing local and regional plans. This was followed by a discussion within and across groups on the feasibility and efficiency of these four merged plans (Phase 5). Facilitators then compiled and digitized the four plans into one including the four spatial areas: upland, midland, lowland, cross-regional. Next, in small groups, the participants discussed the implementation of the regional plan by filling-in “action implementation templates” specifying the how each action would be implemented, with what resources and by whom. These sheets were then placed in an implementation matrix (Phase 6).

After this, one last workshop was held in each community between July and December 2013 to make their own local implementation plan and provide their feedback on the “Rwenzori regional INRM plan”. One local “Mpanga club” was created, with participation on a voluntary basis, and others are
planned. These clubs aim to display environmental information, create environmental datasets, provide a forum for people to be involved in NRM, and to link up with the RRDF coalition.

At the regional scale, a “high-level policy meeting” was attempted in July 2013 organized by facilitators but convened by Kabarole district. The objective was to increase ownership and commitment of regional decision makers towards the plan implementation. However, partly due to short-notice, attendance to this meeting was low. Participants suggested a follow-up process, yet by that time the AfroMaison project had finished and no commitment was made by the Kabarole district to fund a further meeting.

Discussions were also held between facilitators and the RRDF coalition to discuss the implementation of the plan. RRDF endorsed the plan in May 2014, after the end of AfroMaison project activities. The coalition took over the coordination and monitoring of plan implementation. Members of the RRDF agreed to implement parts of the plan depending on their scope of work, such as agriculture, water or education. Proposals for funding are to be submitted by the overall network.

### 7.4.6 The national-scale involvement

Two meetings planned with the Minister of Water and Environment in 2013 were cancelled by the Minister. The three members of the national parliament representing the Rwenzori region were invited at both district leaders meeting, in January and July 2013, and one attended. He later joined facilitators at the final AfroMaison event in Brussels in May 2014 and reiterated his commitment to implementing the plan. At that occasion, he committed to convene a meeting with the parliament environment committee.

Figure 7.5 illustrates the Rwenzori process at the multiple scales.
7.5 Case comparison and discussion

AfroMaison sought to uncover means of operationalizing multi-scale INRM in Africa through integrative and adaptive planning involving relevant stakeholders and starting from the regional scale. The comparison between the Rwenzori case, in which the participatory planning process was extended at multiple scales, and the Fogera case, in which there was no such extension, allows us to reflect on the conditions under which the suggested approach can support the operationalization of multi-scale INRM in Africa.

Table 7.1 summarizes the main differences between the two cases.
Table 7.1. Main differences between the two cases

<table>
<thead>
<tr>
<th></th>
<th>FOGERA, ETHIOPIA</th>
<th>RWENZORI, UGANDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size and population</td>
<td>1,030 km²</td>
<td>14,000 km²</td>
</tr>
<tr>
<td></td>
<td>230,000 people</td>
<td>2,4 million people</td>
</tr>
<tr>
<td>Participants</td>
<td>Regional: 38 to 52 per workshop</td>
<td>Regional: 29 to 68 per workshop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local: 597</td>
</tr>
<tr>
<td></td>
<td></td>
<td>National: 1</td>
</tr>
<tr>
<td>Number of workshops</td>
<td>Regional: 3</td>
<td>Regional: 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local: 3 to 9</td>
</tr>
<tr>
<td>Facilitators</td>
<td>Researchers from Addis Ababa</td>
<td>Community university from the region</td>
</tr>
<tr>
<td>Focal issue</td>
<td>Free grazing</td>
<td>Land degradation, poverty, water pollution, deforestation, population increase</td>
</tr>
<tr>
<td></td>
<td>Soil erosion</td>
<td></td>
</tr>
<tr>
<td>Scale</td>
<td>Regional group split into two subgroups in parallel: decision makers/farmers</td>
<td>Multiple scales: local/regional/national</td>
</tr>
<tr>
<td>Role-Playing Games</td>
<td>Regional game used as a basis for planning</td>
<td>Regional game used to test plan and as a basis for planning</td>
</tr>
<tr>
<td></td>
<td>Local game used to discuss constraints</td>
<td></td>
</tr>
</tbody>
</table>

Figure 7.6 provides pictures of the six phases of the Fogera and Rwenzori processes.
Operationalizing multi-scale INRM in Africa: comparison of regional participatory planning processes in Ethiopia and Uganda

**Fogera (Ethiopia)**

1. **Procedural agreement**
2. **Focal issue**
3. **Actions identification**
4. **Planning**
5. **Role-playing game**
6. **Implementation plan**

**Rwenzori (Uganda)**

*Figure 7.6. Pictures of the six phases of the Fogera and Rwenzori processes*
7.5.1 Drivers of the uptake of the process from the regional scale to multiple scales

We first discuss the factors that triggered the downscaling and upscaling of the process in Uganda. They allow us to understand what specific aspects of the process prompted the uptake, or attempted uptake, at other scales. From our analyses of the process, these factors are:

- **The will of Ugandan facilitators to involve local communities in the process.** As MMU is a community university, it has the mandate and skills to reach out to the Rwenzori communities. This highlights the importance of the composition of the facilitating team, its role and responsibilities, its capacity to mobilize resources such as people, skills and budget as well as its network.

- MMU’s local network provided the opportunity to agree on a partnership with a well-established network of agricultural organizations (SATNET). It allowed rapid downscaling of the process and integration into existing structures, therefore strengthening the chances of a continuation of the activities after the end of AfroMaison project.

- The will of facilitators and of SATNET staff to downscale the process resulted from enthusiasm generated by the game. As it was a fun and innovative tool which stakeholders in the region had not encountered, it was attractive to new players in an area where stakeholder fatigue is prevalent. In the Ethiopian case, dissimilarly, the game was quite complex and even though all the 11 participants interviewed after the second workshop considered that the game was a good tool for planning, five mentioned that it was difficult to understand, especially for farmers. This shows that an effective contextualization of tools is essential as it can foster or hinder the up and downscaling of the process (see also Castella, Kam, Quang, Verburg, & Hoanh, 2007).

We suggest that these aspects be emphasized when attempting to extend a regional NRM planning process to multiple scales.

7.5.2 Lessons for downscaling: engaging both the regional and local scales simultaneously?

Taking a closer look at the follow up of the activities after the end of AfroMaison in both cases leads us to wonder whether the regional and local scales should not be engaged simultaneously from the
onset rather than using the regional scale as an entry to other scales. In both cases, the need to downscale the process was recognized. The main difference is that in the Rwenzori, the local process began in parallel to the regional work while in Fogera, it will have to follow it. Indeed, in Ethiopia, discussions led to the recognition that pilot communities were needed to serve as a model on how to translate the regional plan at the local scale. In decentralized African countries like Uganda and Ethiopia, local stakeholders such as farmers and other community members are often considered as the main implementers of NRM plans. Since most local stakeholders were not involved in the regional process in Ethiopia, it was agreed by workshop participants that it was up to the model farmers and DAs involved to serve as intermediaries, or “brokers” (Leach et al., 2012), of the regional plan in their communities. However, during the interviews, participants emphasized that local stakeholders not involved in the process would be reluctant to implement the plan unless convinced of its benefits through a pilot demonstration.

The Rwenzori case study demonstrates that engaging the local-process in parallel to the regional process increases ownership, relevance and consistency of the regional plan by all and therefore eases its implementation. The farmers and DAs who will play the role of brokers in local communities in Fogera could well benefit from such a well-established local network and preliminary development of local plans. Engaging early in a local process may also prompt the regional process. In Uganda, even though the local process started after the regional one, local participants started much earlier to implement actions of their plan at their local scale. These actions included picking polythene bags out of rubbish pits, creating a pit for the local abattoir or moving the car washing bay away from the river bank. CPFs proudly presented these actions at the fourth workshop, making some regional participants realize that they had adopted a wait-and-see dogma, partly legitimated by their lack of resources. Some regional participants started in turn to implement actions after that workshop, for example, the opening of a bee-keeping training centre. Finally, engaging with local stakeholders can trigger greater involvement of regional politicians representing these electorates. This argument was used by Ugandan facilitators to invite decision makers to the workshop in January 2013. The widespread dissemination of the game, supported by media coverage, had reached their attention. In interviews, a number of politicians said that as representatives of the citizens, they had to be aware of such social phenomena.

However, practitioners need to be aware that in engaging several scales in parallel some difficulties can arise. Several have been identified in the Rwenzori case. Firstly, it is resource intensive in terms of budget, time and personnel. Secondly, adoption of tools, such as role-playing games, at various scales
simultaneously requires the establishment of a “semi-control”, or standardized process, associated with a minimal monitoring, in order for the tools not to be misused (Botta, Daré, Antona, & Leclerc, 2009). Thirdly, managing a great number of participants can be challenging as more marked power and equity issues may surface. Fourthly, there is a risk of losing specific innovations and diversity by generating broad plans. Finally, it may generate temporal mismatches between the different categories of stakeholders, politicians and farmers who, for instance, have different visions of what time frames are important.

Despite these challenges, working at multiple scales simultaneously also has advantages. First of all, it increases local participants’ ownership of the regional plan. Secondly, it fosters the understanding of multi-stake and multi-scale representations. Thirdly, it creates social bridges across scales. Fourthly, it is a useful mechanism for ensuring effective implementation of and links to national NRM policies. Lastly, it generates innovative ideas for action, by fostering exchanges among local participants and with experts.

**7.5.3 Lessons for upscaling: engaging national stakeholders to provide process legitimation?**

In Uganda, facilitators put efforts into upscaling the process to the national scale, as detailed in section 7.4.6. Yet, these attempts were largely unsuccessful. In decentralized African countries, national NRM policies are often meant to be implemented by sub-national institutions. Even though national stakeholders may retain certain roles, such as allocating funding, managing specific natural resources (forestry and wildlife in Uganda for instance), or configuring environmental management tasks, implementation is officially in the hands of sub-national institutions (Larson & Soto, 2008; Oosterveer & Van Vliet, 2010).

We suggest that for INRM operationalization, upscaling processes to the national scale may not be relevant in the initial stages of the process. Instead, one or two key national stakeholders can be involved to help provide national-level legitimation of the regional and local processes. Attempts to upscale the process to the national scale can be very resource intensive: it incurs frequent journeys to the capital which can be long and costly. Instead, a few key national stakeholders can be identified and solicited. These may be members of parliament or ministry staff who have an influential position and feel committed because they originate from the region or are concerned by NRM. Their participation in key workshops may favour attendance by regional decision makers and legitimate the process. In Ethiopia, a similar strategy was applied through innovation platforms developed at three
scales, including a national one (CGIAR, 2015). It is then likely that gradually, development of the regional and local scales processes, as well as involvement of a few key national players, could foster wider involvement and change at higher scales (Folke et al., 2005).

7.6 Conclusion

This paper has highlighted that the increasing pressures and complexities present in the African context, and in other regions facing similar NRM challenges, require an adaptive and integrated NRM. One, among other possible ways, to operationalize INRM in these regions is through multi-scale participatory planning processes. However, engaging simultaneously multiple scales and stakeholders in a planning process is not straightforward and requires a step-by-step approach. This paper investigated the potentiality of using the regional scale as an entry point to other scales. This paper aimed at drawing upon the comparative experience gained through the rigorous M&E of two case studies to make a start at assessing the conditions and challenges for operationalizing multi-scale INRM through regional-scale participatory planning processes.

Three main conclusions were drawn from this comparison. These conclusions contribute to research and practice on participatory processes. Firstly, it was found that three main factors triggered the extension of the Rwenzori process to multiple scales: the will of Ugandan facilitators to involve local communities in the process, a partnership with a well-established network of agricultural organizations and enthusiasm generated by the role-playing game. It was suggested that these aspects could be used as triggering factors when willing to upscale or downscale a process. Secondly, the comparison led us to suggest engaging simultaneously the regional and the local scales from the onset rather than using the regional scale as an entry to the other scales. A third and final key lesson was that for INRM operationalization, upscaling processes to the national scale may not be relevant in the initial stages of the process and that instead, one or two key national players could be involved to support legitimation of the process and to drive change at the national level linked to regional and local NRM insights. One comment must be made on the time, budget and effort required to upscale or downscale participatory processes. In Africa, decision makers face very stark trade-offs in how much is to spend in the context of NRM. The choice to operationalize INRM through upscaling or downscaling participatory processes can be relevant in countries seeking to apply decentralization policies. However, applying the guidelines suggested in this paper require resources which may not always be available or could be allocated elsewhere. We acknowledge that making these trade-offs
can be an issue and that following the suggested guidelines may not always be relevant, depending on NRM objectives, agenda and on resources available.

This paper has presented just two case studies of the use of such regional approaches and we see that there is much further research and operationalization that could occur in Africa and further afield based on these insights. One additional challenge highlighted earlier in our paper but not treated due to the limited nature and time frame of our case-study analyses, is the “outscaling” of regional processes. Specifically, how might one regional process in-country lead to the multiplication of such regional processes across a country or countries? The policy experiment and innovation uptake literature suggests that uptake could come top-down from the national level or bottom-up by other regions also wanting to implement such processes on their own. But, in the African context and in other regions facing similar NRM challenges, this requires much further work in order to promote widespread INRM that will underpin communities’ livelihoods, prosperity and sustainability over the long term.
Chapter 8 • Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

Abstract

Many participatory processes fail to generate social change and collaborative outcomes. This failure can partly be explained by how divergent stakeholders’ frames are handled. This paper builds on the convergence between the relational leadership and participation literature to explain how facilitators can practice relational leadership through managing frame diversity. It suggests two pragmatic steps: identifying frames and managing frames. The two steps are applied to a participatory process for natural resource management in Fogera, Ethiopia. Effectiveness of facilitators’ strategies to manage frame diversity in the Fogera case is discussed. Two main elements challenging effectiveness are identified: counter-strategies used by facilitators and most-powerful stakeholders, and the constraining factors knowledge, champions and frame sponsorship. We argue that these elements need to be taken into account by participatory process facilitators when managing frame diversity. The paper ends by highlighting potential research themes at the crossroads between relational leadership theory and participation literature.

Keywords

Ambiguity; framing; meaning; participation; social change
8.1 Introduction

Participatory processes are increasingly adopted as an essential element of policies and programs in a number of domains including environment, health, education, justice and infrastructure. Participatory processes may be defined as the practice of consulting and involving relevant stakeholders in the agenda-setting, decision-making, and policy-forming activities of organizations or institutions responsible for policy development (based on Rowe & Frewer, 2004). Participatory processes generally aim at generating collaborative outcomes while promoting the cognitive, behavioural and institutional changes necessary for self-implementing and sustaining these outcomes over time (Opondo et al., 2006).

Such changes are not easy to attain. They require a specific type of leadership for which little guidance exists. Indeed, participatory processes require bridging differences within a complex web of interconnected yet separate actors (Ospina & Foldy, 2010). This “boundary-spanning collaboration” requires a particular type of leadership (Gasson & Elrod, 2006). Crosby and Kiedrowski (2008, p.1) call it “integrative leadership”, which they define as “fostering collective action across boundaries to advance the common good”. Ospina and Foldy (2010, p.303) expand this concept by coining the term “bridging leadership”, or “the leadership work that connects different perspectives without merging them into a single one”. Recently, leadership authors have started investigating how integrative or bridging leadership is co-constructed in social interaction processes (Fairhurst & Uhl-Bien, 2012). Some refer to this as relational leadership. Uhl-Bien (2006) articulates the various relational leadership approaches into an overarching framework that she calls “relational leadership theory”.

In participatory processes, this leadership work is usually supported by facilitators. Facilitators are the individuals instigating, designing and/or supporting the participatory process. They enable the group of participants to collaborate and achieve synergy (Kaner, 2014). They manage the change process in the participatory intervention (Groot & Maarleveld, 2000). In this sense, facilitators act as “social change leaders”: they create the conditions that foster the connectedness needed for collaborative goals to be achieved (Ospina & Foldy, 2010). For purpose of clarity, we will use the term “facilitator” rather than “social change leader” in this paper.

Here, we explore how facilitators can bring relational leadership into practice in order to better support participatory processes. Some scholars in the relational leadership literature have already started moving in this direction by drawing from both practice theory (Bourdieu, 1998; Reckwitz, 2002;
Schatzki, Cetina, & Ssvingy, 2001) and leadership theory (e.g. Ospina & Foldy, 2010) or from social change theory and leadership theory (e.g. Uhl-Bien & Ospina, 2012). Ospina and Foldy (2010), notably, identify five leadership practices that set the stage for explicit collaborative work.

One characteristic shared by many of these authors is their recognition of framing and re-framing processes as a vehicle for fostering connectedness and the definition of common collective goals, acknowledging that a diversity of frames can cause participatory processes to fail (Gray, 2004). Framing is the process of labelling a situation as a problem, deciding on its boundaries, what is meant by the problem, what is in and what is out, and eventually discuss its causes and confront those responsible (Felstiner, Abel, & Sarat, 1980). For instance, Higgs and Rowland (2011) identify that when leaders adopt a “framing” behaviour, it is positively related to successful change. Uhl-Bien and Ospina (2012) identify three leadership practices which can help social change organizations to build collective power and ultimately create collective outcomes. One of them is “reframing the discourse”. Fairhurst (2010; Fairhurst & Sarr, 1996) provides guidelines for leaders to use framing as a way to manage meaning and have greater impact on the world through their communication. These framing leadership practices are explored further in section 8.3. Even though these notions of framing might slightly differ from one to another, they all emphasize the importance of managing frame diversity in leadership construction and collaborative processes.

One of the shortcomings of relational leadership practices suggested is that they look at framing based on communication and discourse analyses (Scheff, 2005), which may be difficult for facilitators to undertake (Alvesson & Karreman, 2011; Butteriss, Wolfenden, & Goodridge, 2001). Facilitators are required to translate participants’ interactions, discourse or interviews into text and then methodically analyse them before selecting adequate leadership practices to manage frame diversity. Methods for communication and discourse analysis include, among others, organizational discourse analysis (e.g. Fairhurst & Uhl-Bien, 2012), interaction analysis (e.g. Fairhurst, 2004; Rogers & Escudero, 2004), critical discourse analysis (e.g. Fairclough, 2010), conversation analysis (e.g. Pomerantz & Fehr, 1997; Psathas, 1995) and narrative analysis (e.g. Boje, 2001; Gabriel, 2004). These methods are weighted towards research applications and empirical developments lag behind (Ospina & Foldy, 2010). They demand, on the one hand, specialized skills and time from facilitators that may be very difficult to acquire and put in practice, and, on the other hand, a clear approach to cope with divergent perspectives and conflicts that may arise. In short, despite the advances in relational leadership theory, facilitators are still left with the daunting tasks of applying these framing practices in real life contexts.
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

Support and guidance to facilitators on how to identify frames and select leadership practices, or strategies to manage frame diversity in action while fostering collaborative work, are rare. Practices and know-hows that are adjusted to the concrete needs of facilitators in the doing are, to our knowledge, still missing. In bridging the divide among participants, facilitators need pragmatic leadership practices in 1/ identifying frames and 2/ managing frame diversity in different contexts. The objective of this article is to explain how concretely facilitators can practice relational leadership through managing frame diversity. We argue that managing frame diversity is needed in order to foster the connectedness needed for collaborative work to advance the participatory process mission. We fulfil this objective by advancing both practice and theory. In terms of practice, we aim at guiding participatory process facilitators in managing frame diversity and fostering collaborative outcomes. In terms of theory, our work aims at fostering the convergence between relational leadership theory and participation literature. Participation literature would benefit from considering facilitators as relational or social change leaders and participatory processes as social change organizations (as defined by Chetkovich & Kunreuther, 2006). Conversely, relational leadership research may benefit from an understanding of participatory tools (Bradbury & Lichtenstein, 2000) and framing literature which are more pragmatic and provide more “operational” guidance and tools than communication and discourse analysis.

Sections 8.2 and 8.3 of the paper suggest two pragmatic steps which can be followed by facilitators to manage frame diversity and foster collaborative outcomes: identifying frames and managing frames. Section 8.4 illustrates the application of these two steps on one exemplary case: a participatory process for Natural Resource Management (NRM) in Fogera, Ethiopia. Section 8.5 identifies factors which enabled or constrained the effectiveness of facilitators’ strategies to manage frame diversity in the Fogera case. Section 8.6 summarizes our findings and engages a discussion on the convergence between relational leadership theory and participation literature.

8.2 Identifying frames

We have argued above that in order for participatory process facilitators to act as act as “social change leaders” (Uhl-Bien & Ospina, 2012), they need to manage frame diversity. In this section, we start by providing a definition of frames and then provide a methodology which can be used by facilitators to identify frames.
Frames refer to the interpretations that actors give to a situation, affecting the way in which they respond to it (Gray, 2003). For example, a problem of deforestation can be framed as an “insufficient implementation of regulations” by one actor and as a “lack of alternative income generating activities” by another.

Diversity of frames is intrinsic to participatory processes. This diversity can impact the participatory process and its outcomes (Gray, 2004). It may cause ambiguity in terms of what the problem is or how it should be managed (Brugnach et al., 2011; Dewulf et al., 2005; Dewulf, Mancero, Cardenas, & Sucozhanay, 2011; Koppenjan & Klijn, 2004). When this ambiguity is not taken into account, or when the diverse problem frames are not made transparent, views, values and interests of elites and most powerful participants tend to prevail over the ones of minorities and most disadvantaged stakeholders (Brugnach & Ingram, 2012). Minorities’ meaning and interpretations, their preferences and interests, their knowledge and perspectives, their cultural and religious values tend to be undermined or marginalised (Midgley, 2000). For example, when considering the problem of free grazing in Ethiopia, one of the arguments of farmers in favour of maintaining communal grazing lands is the use of these areas for religious and social purposes. These perspectives are given no legitimacy by many decision makers who consider that “technical” arguments such as environmental restoration and soil and water conservation prevail. As a result, decisions made and solutions adopted in the participatory process arena may reflect the interests of some groups only (Ingram & Stern, 2007). They mirror power differences rather than promoting inclusiveness, trust and collaboration. Local conditions and preferences are not taken into account and the process, rather than leading to collaborative outcomes and social changes, remains elusive and futile (Gray, 2003). It is therefore essential for facilitators to know how to support participatory processes in a way that is inclusive of the diversity of frames and commensurate with common collective goals.

In a participatory process, various categories of frames co-exist, co-evolve and influence each other. Based on Gray (2004), we consider six frame categories depending on their object, or on what the frame is about, as illustrated in Table 8.1.

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22 Free grazing is when farmers let their cattle roam and feed freely regardless of land ownership.
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

Table 8.1. Frame categories

<table>
<thead>
<tr>
<th>FRAME CATEGORY</th>
<th>OBJECT (WHAT THE FRAME IS ABOUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem frames</td>
<td>Problems at stake</td>
</tr>
<tr>
<td>Identity frames</td>
<td>Oneself</td>
</tr>
<tr>
<td>Characterization frames</td>
<td>Others</td>
</tr>
<tr>
<td>Process frames</td>
<td>Participation process</td>
</tr>
<tr>
<td>Aspiration frames</td>
<td>Underlying interests and needs</td>
</tr>
<tr>
<td>Outcome frames</td>
<td>Preferred positions or solutions</td>
</tr>
</tbody>
</table>

Problem frames, for instance, are interpretations of a problem, the latter being understood as the topic of concern in the participatory process (based on Dewulf et al., 2009). Participants in participatory processes may hold various interpretations of what the problem actually is. As illustrated earlier, a problem of deforestation for example can be framed as an “insufficient implementation of regulations” by one actor and as a “lack of alternative income generating activities” by another. These interpretations are linked to the way actors see themselves (identity frames), others (characterization frames), the process (process frames), to their underlying interests and needs (aspiration frames) and to their preferred positions or solutions (outcome frames).

Ideally, all participants in a process should be able to identify, acknowledge and challenge all these categories of frames and their effects. However, this cognitive exercise does not occur naturally, and we argue that it is up to facilitators to foster it, by supporting participatory processes in a way that is inclusive of the diversity of frames. Facilitators need to elicit frames (make frames transparent) and inform participants (about other potentially existing frames). In the rest of this paper, we will take the example of problem frames to illustrate how diverse frames can be identified and managed. We suggest that in participatory processes, which aim at addressing specific problems, identifying problem frames is a good start. For a real frame-aware process, a similar procedure can be carried out with all six categories of frames.

Based on Chong and Druckman (2007), we suggest two simple steps which can be used by facilitators to identify frames in participatory processes:

1. Formal identification of frames before or at the early stages of the participatory process,
2. Informal identification of frame evolution throughout the process.

For problem frames for instance, the first step entails the detailed description, at one particular point in time, of the various problem frames which participatory process participants hold. We suggest undertaking this identification before the beginning of the participatory process. This identification can be based on interviews, prior work in the academic and popular literatures, as well as on...
facilitators’ knowledge of the context. It can also be carried out with participants and incorporated as one phase in the participatory process. This formal identification requires the specification of how any particular frame can be identified, for instance by categorizing the universe of words that mark the presence of a frame. For example in the Fogera case presented in section 8.4, the words “sedimentation”, “gully”, “soil” or “land degradation”, “siltation”, “topography” or “soil conservation” (closest English translation from Amharic) marked the presence of the soil degradation and erosion problem frame. Coding, i.e. correspondence between presence of these words and their respective frames, can be done digitally or manually. In the Fogera case, coding was made manually, allowing a greater level of detail and made possible thanks to the manageable amount of data sources to be analysed. Two precautions must be taken linked to this initial formal identification of problem frames. First, frame identification may bias a facilitator’s view of the process and of participants. However, we argue that even when such identification is not made “formally”, facilitators hold preconceived views of participants’ frames. At least, such identification may reveal facilitators’ preconceptions and provide an opportunity to challenge and discuss them. Second, this initial identification does not imply that frames are fixed. It is a “picture” of participants’ frames at one point in time. Participants’ frames constantly evolve, whether they are managed or not by deliberate strategies.

Once this baseline has been established, facilitators may then identify how frames hereby identified evolve throughout the participatory process. This second step is more “informal” as facilitators may not be able to analyse interactions and discourses thoroughly while the process is ongoing. This informal identification can be based on various methods and sources, depending on available resources and skills. In the Fogera case, the methods used were semi-open interviews of process participants, questionnaires, statements of participants’ expectations, videos, participant observation, and informal discussions. Selection of interviewees tried to balance conditions in terms of gender, geographical distribution and occupation. In total, 54 interviews and 111 questionnaires were collected before and at various stages of the participatory process.

Section 8.4.1 illustrates how frame identification can be carried out on a concrete case.

23 However, facilitators need to be aware that participants may not openly divulge their own interpretations of the problem in front of other participants. They may be influenced by a variety of factors, such as the presence of other stakeholders or their role in the group.
8.3 Managing frames

Once facilitators are able to identify frames, they need to be able to manage frames, that is to induce participants to acknowledge their own and others’ frames.

Following Donnellon, Gray, and Bougon (1986), we argue that in order to support participatory processes in a way that is inclusive of the diversity of frames and commensurate with common collective goals, facilitators do not necessarily need to ensure that all participants in the process hold the same meaning of the problem, or in other terms, that problem frames are aligned. Participants can engage in collective action and produce collaborative outcomes despite their holding very different meanings of the problem at stake. Based on Donnellon, Gray, and Bougon (1986), we suggest that what facilitators must do to support organized action is not necessarily to ensure shared meanings, which can be difficult, but to ensure *equifinal meanings*, that is a shared repertoire which participants recognize, respond to, and use to interact with one another and to coordinate their actions. The role of facilitators is to structure the development of this shared repertoire.

In the relational leadership literature, four authors in particular identify leadership practices which can be deliberately undertaken by facilitators to bridge frame divides among participants and foster collaborative outcomes. Uhl-Bien and Ospina (2012, p.272), suggest leaders in social change organizations to reframe the discourse, to “understand dominant frames and their permeability, craft new repertoires, language and narratives and live them through action”. Ospina and Foldy (2010) make the suggestions to prompt cognitive shifts, name and shape identity, engage dialogue about difference, create equitable governance mechanisms and weave multiple worlds together through interpersonal relationships while minimizing power inequities and recognizing the strategic value of “difference”. Fairhurst (2010) provides various guidelines which can be used by leaders or facilitators to manage meaning, including diagnosing their framing style, using various linguistic tools to accompany their cultural discourse, developing awareness of their mental models, diagnosing their core framing tasks, combining various framing devices, regulating their emotions through priming for spontaneity and reframing, positioning themselves morally and understanding how leadership, context and framing all fit together to create an outcome.

In the participation and framing literature, several authors have explored strategies to support participatory processes in a way that is inclusive of frame diversity. Some authors look at the influential use of framing effects (e.g. Chong & Druckman, 2007; Levin, Schneider, & Gaeth, 1998).
Framing effects occur when changes in the presentation of a process, a person or a problem, produce changes in participants’ opinion, judgments or decisions (Chong & Druckman, 2007). Levin et al. (1998) identify three different kinds of framing effects which can be influenced: risky choice, attribute and goal framing effects. In the same vein, Dewulf et al. (2011) suggest three key framing processes which can be influenced: selection, focusing and embedding. Chong and Druckman (2007) suggest three psychological mechanisms which can be used to influence participants’ frames: the availability, accessibility and applicability of frames. In social movement research, Benford and Snow (2000) show how social movement organizations use a combination of diagnostic, prognostic and motivational framing to mobilize support for their issues. Based on discourse analysis, Dewulf and Bouwen (2012) list five interaction strategies or ways of “doing differences” or dealing with frame differences: frame incorporation, accommodation, disconnection, polarization and reconnection. They compare the five strategies with ways of “dealing with dualities” such as mutual adaptation, splitting the difference, elimination or pruning, selection, escalation or polarization, connection and interpenetration (Bartunek, 2004; Thomas, 1995).

This literature is useful for gaining an understanding of the processes of framing and reframing and how they can be influenced intentionally by facilitators in order to manage frame diversity. However, Levin, Schneider, and Gaeth’s (1998), Chong and Druckman’s (2007) and Benford and Snow’s (2000) strategies are very linked to specific fields (respectively prospect theory, media studies and social movements) and only part of their concepts can be applied to participatory processes. We also argue that Dewulf and Bouwen’s (2012) five interaction strategies are very useful for research on frames but can be difficult to implement for facilitators who do not necessarily have the required time or skills to make in-depth discourse analysis while the participatory process is ongoing. Uhl-Bien and Ospina (2012), Ospina and Foldy (2010) and Fairhurst (2010) provide a range of “ready-to-use” leadership practices but little guidance on how to select among these.

Rather, we suggest the use of a more operational and interactional concept developed by Brugnach et al. (2011), who identified five strategies to handle ambiguity: rational problem solving, persuasion, dialogical learning, negotiation and opposition. They define ambiguity as the simultaneous presence of multiple valid, and sometimes conflicting, ways of framing a problem. The rational problem solving strategy “aims at finding solutions to problems by trying to arbitrate the frame differences by invoking scientific evidence” (ibid, p. 79). Persuasion implies “convincing others of the meaningfulness of one particular frame of reference” (ibid, p. 80). Dialogical learning handles frame differences by “engaging all actors in an interactive process of mutual understanding and the creation of shared or connected
frames”. *Negotiation* tries to “reach an agreement that is meaningful from different frames” (ibid, p.80) while *opposition* is the imposition of “a particular frame through power strategies” (ibid, p.80). Brugnach et al. (2011) suggest that “these strategies can also be used in combination” (ibid, p.83). However, they do not describe how. Our analysis builds on their five strategies and aims at bridging this gap by exploring how these five strategies can be used in an operational way by facilitators to manage frame diversity within participatory processes. We illustrate this in section 8.4 by taking the example of a participatory planning process in the Fogera woreda (district) in Ethiopia.

### 8.4 The Fogera participatory planning process case

This case study is a participatory planning process implemented in the Fogera woreda in Ethiopia, which is part of the largest catchment bordering Lake Tana, the Gumera catchment, at the source of the Blue Nile. The area is 1,030 km² in size with a population of about 230,000 people. The participatory process was part of a project funded by the European Union called AfroMaison. AfroMaison was launched to address the challenges of making integrated NRM in Africa operational. The objective of the participatory planning process was to engage relevant stakeholders in proposing and validating integrated NRM plans and to trigger institutional dynamics to support the implementation of these plans. The process was comprised of six phases developed through a series of participatory workshops (adapted from the AquaStress project: Ferrand et al., 2006):

1. Procedural agreement,
2. Evaluation and identification of a long-term common objective,
3. Action proposal,
4. Selection and integration of actions,
5. Test of the plan using a participatory simulation tool (role-playing game), and
6. Implementation plan.

Three workshops took place over ten months, from December 2012 to September 2013. Each workshop gathered 38 to 52 stakeholders, including regional decision makers, woreda experts, development agents, non-governmental organizations’ representatives, researchers and farmers. Facilitators were eleven researchers from international research institutes, most of them based in Addis Ababa. Two authors of this paper were involved in all phases of the participatory process, where an action research posture was adopted (Checkland & Holwell, 1998). For a detailed description of the Fogera case, see section 7.3.
8.4.1 Identifying frames in the Fogera case

The Fogera case served as a basis to develop the conceptual framework presented in this paper. Formal identification of problem frames in Fogera was therefore made a posteriori by the two authors of this paper who were also involved in facilitating the participatory process. However, the Fogera case can serve as an example for facilitators to identify frames before or at the early stages of the participatory process. In Fogera, formal problem frame identification was based on participant observation of the early phases of the participatory process, preliminary interviews of process participants, initial questionnaires, statements of participants’ expectations, as well as on the results of earlier participatory exercises carried out by facilitators in Fogera (Cullen & Adie, 2012; ILRI, 2012). Data collected through these methods was then analysed and coded following the methodology for frame identification presented in section 8.2.

In order to better understand the ambiguity within specific problem frames, we will focus on one problem described by stakeholders in the Fogera case: free grazing. Free grazing is when farmers let their cattle roam and feed freely regardless of land ownership. In Fogera, free grazing has led to land degradation generating erosion, siltation or sedimentation downstream and ultimately reducing crop yields. This problem has been selected as an example because reducing it was chosen by participants as a long-term objective to be addressed through the participatory planning process. Table 8.2 summarizes the various problem frames held on free grazing by process participants.

Table 8.2. Participants’ frames about the free grazing problem in the Fogera case

<table>
<thead>
<tr>
<th>PARTICIPANTS</th>
<th>FREE GRAZING PROBLEM FRAMES</th>
<th>CITATIONS (TRANSLATED FROM AMHARIC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitators</td>
<td>They outline the interconnections between soil, agricultural activities and livelihoods. They look at interventions to balance food security and natural resource sustainability.</td>
<td>“The environment and the community are linked. [...] Farmers and the communities benefit from the environment, from land and water.”</td>
</tr>
<tr>
<td>Landless and young farmers</td>
<td>They agree to stop free grazing if the communal grazing land is redistributed and they can get a part of it for cropping. But they do not want to stop free grazing if they cannot get a portion of the communal grazing land because then they would be left with no land to feed their animals and no place to pursue their other income-generating activities (e.g. dung collection, agricultural production).</td>
<td>“We are interested, if the communal grazing land changed into cropping land and landless people can get their own cropping land.” “If grazing is restricted, we will face problems with our animals not getting enough food and we will not be able to collect dung for our fuel.”</td>
</tr>
</tbody>
</table>

24 “Redistribution of the communal grazing land” is a solution frame but is formulated by farmers as an integral part of the free grazing problem frame. This shows the interrelationships among the different categories of frames.
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

<table>
<thead>
<tr>
<th>Poor farmers</th>
<th>They understand the benefits that they could get from stopping free grazing and enclosing communal grazing land.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>However, they are constrained by limited resources (land, money, improved fodder seeds, material, improved animal breed), preventing them from destocking and stall-feeding their livestock.</td>
</tr>
<tr>
<td></td>
<td>They are afraid of the government taking the communal grazing land for rehabilitation purposes, and not being able to benefit from it for social and cultural purposes (e.g. funerals) or cattle recreation.</td>
</tr>
<tr>
<td></td>
<td>“We know cut-and-carry is good for production, increased productivity of animals for meat and milk.”</td>
</tr>
<tr>
<td></td>
<td>“For growing fodder in the back yard it is difficult to get improved seed and fertilizer. Price is high.”</td>
</tr>
<tr>
<td></td>
<td>“We think that the government will take this land if we fence the area.”</td>
</tr>
<tr>
<td></td>
<td>“This land is our only place for important social events.”</td>
</tr>
<tr>
<td></td>
<td>“We need communal grazing land for animal recreation.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rich farmers</th>
<th>They do not want to stop free grazing. They have a lot of cattle and therefore are the ones using the communal grazing land the most. They are reluctant to sell cattle because it is a symbol of their wealth.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>They have large plots of farmland but often shrink the communal grazing land to cultivate it for their own use and fence it.</td>
</tr>
<tr>
<td></td>
<td>“I face problems of feeding all my cattle from my land.”</td>
</tr>
<tr>
<td></td>
<td>“I face a shortage of feed because the grazing area is depleted and also I finished the crop residue. I don’t want to sell some of my animals, because it is not the best time for the livestock market. I rather opt to purchase more feed.”</td>
</tr>
<tr>
<td></td>
<td>“If the communal grazing land is enclosed, I might get less share for my large number of animals.”</td>
</tr>
<tr>
<td></td>
<td>“I have taken much training, about animal husbandries, animal feed and NRM at zone, woreda and kebele level. I am the expert; so I can address farmers’ problems.”</td>
</tr>
<tr>
<td></td>
<td>“If the plan of land administration was applied; it would be easy to stop free grazing.”</td>
</tr>
<tr>
<td></td>
<td>“If the farmer cannot increase the productivity of his land and animal performance then it makes me sad.”</td>
</tr>
<tr>
<td></td>
<td>“Woreda or regional experts promise something: new technology, improved breed, artificial insemination, urea, but, they didn’t supply this technology and farmers see it as false hope.”</td>
</tr>
<tr>
<td></td>
<td>“Farmers that have fewer numbers of livestock resist this idea so working with police I think can give more attention to the issue.”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Development agents (DAs)</th>
<th>They sometimes understand farmers’ constraints which prevent them from stopping free grazing. But their role is to convince them to stop this practice and to train them on alternative management systems for communal grazing land as well as alternative feed systems. Their discourse about free grazing mirrors the governmental one. But their personal opinion about the problem is mired in their constraints in doing their jobs: distances, lack of equipment, lack of skills on specific topics.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>They believe stopping free grazing is a good thing but they sometimes doubt that the necessary resources will be made available to implement it (improved seeds, breeds, more experts). They emphasize on the need to enforce byelaws to prevent farmers from encroaching fenced communal grazing lands.</td>
</tr>
<tr>
<td></td>
<td>“If the farmer cannot increase the productivity of his land and animal performance then it makes me sad.”</td>
</tr>
<tr>
<td></td>
<td>“Woreda or regional experts promise something: new technology, improved breed, artificial insemination, urea, but, they didn’t supply this technology and farmers see it as false hope.”</td>
</tr>
<tr>
<td></td>
<td>“Farmers that have fewer numbers of livestock resist this idea so working with police I think can give more attention to the issue.”</td>
</tr>
</tbody>
</table>

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25 *Cut-and-carry* is a system where feed is cut and carried from communal areas and/or farms to livestock which are confined to pens on or close to the farm (FAO, 2012).

26 This is also a solution frame interconnected with the problem frame (see footnote number 24).
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

**Woreda experts**

They think grazing should be restricted in the short term. They promote communal grazing land enclosure because “free grazing” is understood to be a cause of resource degradation. They push for interventions to be implemented to achieve resource conservation and optimization.

They are subject to pressure from the regional/zonal authorities to meet targets. They fear that communities will not agree to implement the plans because then they will be made responsible for it by their hierarchy.

“The land should be first forcefully enclosed by woreda intervention. Both the farmers and the youth would be beneficiaries from the measure taken.”

“In the long term I would love to see farmers stop free grazing and use a cut-and-carry system.”

“The government wants to stop free grazing and improve the communal grazing land. Farmers have misunderstandings about what the government wants to do.”

**Regional stakeholders (ORDA, ABA, BoEPLAU, LRDPA27)**

They push policies on communal grazing land enclosure and rehabilitation to be implemented. In parallel, they are aware that free grazing is a politically sensitive problem. They acknowledge that this generates lack of commitment by the regional government to push policies forward. They deplore the lack of study on the impacts of free grazing.

“In 1997 [Ethiopian calendar] there was a strategy developed to implement the free grazing strategy developed. It was not successful because land in the region is sensitive and farmers were questioning the government politics and at the time of election the government also don’t want to push it.”

“There is still lack of commitment to push [the drafted guidelines] forward by the regional government.”

“There is no land use study done so far and that is also creating a problem.”

“When we say destocking we need to give consideration about farming practices, how can he perform these activities with low number of livestock, because they don’t have mechanization practice.”

“When we say decrease livestock numbers […] first we need to study which area is good for milk or meat production, see market availability.”

“I have a mandate to work with communities so I want to contribute. By profession I’m a forester, a NRM expert so when somebody wants to work on that I should take the lead. It is my belief that I can contribute to training and field monitoring with the farmers.”

**University representatives, regional researchers (Bahar Dar University, Agricultural and Livestock research Centres) and non-governmental organizations (Ethio Wetlands)**

They think free grazing should be stopped and they’re involved in concrete interventions to do so (e.g. training, providing inputs).

They have an expert approach to the problem, based on research. They are close to the field and understand farmers’ constraints.

Table 8.2 illustrates that there are major differences in participants’ interpretations of the free grazing problem. This ambiguity results in tensions or even conflicts between certain stakeholders. For example, tension exists between rich farmers, who own a large number of livestock, and poor farmers. During one focus group discussion, when asked about the potential constraints she would face in

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27 ORDA = Organization for Rehabilitation and Development in Amhara
ABA = Abay Basin Authority
BoEPLAU = Bureau of Environmental Protection and Land Administration and Use
LRDPA = Livestock Resource Development and Protection Agency
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

stopping free grazing, a woman farmer from Kokit kebele mentioned “we can face challenges from wealthy farmers who have more livestock”. She adds “we can stop free grazing in a short period of time because we are few people and we have a lot of cattle so if we get together against the rich people we can do it”. During the third workshop, a poor farmer said “they [rich farmers] say this feed is enough for us, we don’t need to go there [communal grazing land] but the rich farmers were taking all the fodder to their home”. Ultimately, these differences and ambiguity can prevent both a common understanding of the free grazing problem, but also the articulation of its solution (Gray, 2004). In consequence, strategies to manage frame differences are required.

8.4.2 Managing frames in the Fogera case

Facilitators used a combination of two of the five strategies listed by Brugnach et al. (2011) to manage the diversity of problem frames in the Fogera case: dialogical learning and negotiation.

The main strategy used was dialogical learning. “This strategy handles frame differences through dialogue and learning, engaging actors in an interactive process of communication to create a joint problem definition and an outcome that is beneficial to all of them”. According to Brugnach et al. (2011), there are different ways in which dialogical learning can support managing frame diversity: frame-enlargement interventions, exploring one’s own frame repertoire and perspective-taking exercises. A combination of these was developed by facilitators throughout the Fogera participatory planning process, as illustrated in Table 8.3.

Table 8.3. Tools used by facilitators to manage frame diversity through the dialogical learning strategy in the Fogera participatory process

<table>
<thead>
<tr>
<th>WAYS IN WHICH DIALOGICAL LEARNING CAN SUPPORT MANAGING FRAME DIVERSITY</th>
<th>TOOLS USED IN THE FOGERA CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame-enlargement interventions</td>
<td>Communicating results of the community engagement exercises and interviews during the workshops, showing the participatory video</td>
</tr>
<tr>
<td>Exploring one’s own frame repertoire</td>
<td>Case studies, narratives Alternation of group settings</td>
</tr>
<tr>
<td>Perspective-taking exercises</td>
<td>Role-playing games World café</td>
</tr>
</tbody>
</table>

In order to give participants opportunities to explore others’ problem frames, or in other words to enlarge their own frames, facilitators attempted to bring into the process the widest diversity of frames, including the ones held by stakeholders who were not adequately represented. One challenge they encountered was the fact that selection of the participants in the process was partly made by the
Fogera woreda administration and development agents who deliberately selected “model farmers” with similar problem frames related to free grazing (see Cullen, Tucker, Snyder, Lema, & Duncan, 2014, p267 for discussion). Aware of this bias, facilitators used various tools to include the views of farmers opposed to restricted grazing in the participatory process. For instance, a participatory video had been made as part of a parallel project in an attempt to better involve farmers in the research process (ILRI, 2012). In the participatory video, 12 farmers expressed their views of the constraints and opportunities of restricted grazing. The video was displayed during the first workshop. 11 farmers opposed to restricted grazing were also interviewed by researchers. Their views were used by facilitators to challenge participants’ problem frames in the following workshop. Facilitators also managed to have some of these farmers, opposed to restricted grazing, participate in the third workshop. A governmental training campaign required the presence of model farmers and prevented their participation in the workshop. Facilitators used this opportunity to include farmers opposed to restricted grazing. Involving more actors and altering the group composition are mentioned by Dewulf et al. (2011) and Brugnach and Ingram (2012) as one of the process characteristics that are likely to contribute to the connection of frames.

In order for participants to explore their own frames, facilitators used various tools including narratives of case studies and alternation of group settings. For the third workshop, facilitators prepared two narratives: one telling the story of a farmer named Anmut, living in Wajj kebele and one of a development agent named Molla. Both narratives were based on testimonies of real stakeholders but had been modified such that no one could be identified. The objective was to represent the perspectives of these stakeholders and their challenges in order to encourage participants, especially farmers and development agents, to reflect on their own problem frames. The alternation of group settings was another tool used by facilitators to enable participants to explore their own frames. Throughout the participatory planning process, stakeholders were split into different groups working in different rooms. The two main groups were decision makers and farmers. But others were used such as: upstream, midstream and downstream participants or women farmers, influential farmers and other farmers. Alternation of group settings had three main advantages. Firstly, during group exercises, participants could share their problem frames with others with similar frames in order to explore and better articulate their views. Secondly, this process sometimes served to highlight internal differences within groups which initially may have appeared homogeneous. Thirdly, outcomes of group discussions were presented to other groups and these were key moments in the process when differences in problem frames could be highlighted and discussed.
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

Two main tools were used for perspective-taking, that is to encourage participant to begin to hear, without judgment, the ways other participants experience the situation: role-playing games (based on Wat-A-Game toolbox: Abrami et al., 2012; Ferrand et al., 2009) and the World Café (Brown, 2005). Two role-playing games were used in Fogera: a meso game representing the whole watershed and a local game representing three farming households. Each player is given a role with a specific problem frame on a role card. Various roles were represented: upstream, midstream, downstream and landless farmers in the meso game and rich, medium, poor, and landless farmers in the local game. The games allowed the players to understand other ways of framing the problem and to express their views about these. During the local game, decision makers were asked by facilitators to sit behind farmers and not to intervene. By establishing these interaction rules, facilitators created space for farmers to act freely and to be listened to by decision makers. Similarly, the World Café allowed a representative of each group of stakeholders (regional, woreda, development agents and farmers) to present his problem frame to other groups and hear their responses. These participatory tools, among others, contribute to the confrontation, discussion and negotiation of problem frames.

The dialogical learning strategy was to a large extent successful. After the presentation of the farmers’ plan to decision makers in the first workshop, one decision maker mentioned: “we should use the plan of the farmers because they are more practical and closer to reality.” Another man from a regional governmental organization said “farmers have done better than us”. During these significant moments, participants begin to understand one another and constructive dialogue can take place.

During more conflictual phases of the process, facilitators used a second strategy in order to try and “reach an agreement that is meaningful from different frames” (Brugnach et al., 2011, p.80): negotiation. For example, after the presentation of decision makers’ plan to farmers and vice-versa in the first workshop, tensions started to emerge about the timing of specific activities. At that stage, facilitators suggested to list the points of dissension and discuss them one by one. When, after some time, discussions did not seem to lead to an agreement, facilitators would require participants to vote. For example, decision makers asked farmers why they had put compost as a midterm activity rather than short term. One male farmer explained the rationale for it but three other farmers, followed by the rest of the group, highlighted that many farmers were already practicing composting. Following this discussion all farmers agreed to put compost in the short term. In parallel, farmers expressed concerns that road construction should be a priority in order to increase their access to markets, however, decision makers had put road construction in the long term. One expert from the woreda explained that the government did not have the required resources available in the short term. After
a discussion, farmers agreed to contribute to road construction with labour and finance if the government made it a priority. An agreement was reached.

8.5 Discussion: factors enabling and constraining the effectiveness of strategies to manage frame diversity

In this section, we explore to what extent the strategies used by Fogera facilitators to manage frame diversity were successful. We found that two elements enable or constrain the effectiveness of strategies to manage frame diversity: counter-strategies used unintentionally by facilitators or intentionally by most-powerful stakeholders, and other “constraining factors” such as knowledge, champions and frame sponsorship. These elements are explored in sections 8.5.1 and 8.5.2. These factors have to be taken into account by facilitators as part of the problem context when they chose a strategy or combination of strategies to manage frame diversity.

8.5.1 Counter-strategies used unintentionally by facilitators or intentionally by most-powerful stakeholders

The development of the dialogical learning and negotiation strategies did not go unchallenged. Facilitators sometimes had difficulties to remain neutral and could not ignore their own knowledge, problem frames and experience. They also faced opposition and persuasion strategies used by the most powerful stakeholders.

Being livestock and agricultural experts themselves, facilitators sometimes could not preclude themselves from using a rational problem solving strategy. This strategy “aims at finding solutions to problems by trying to arbitrate the frame differences by invoking scientific evidence” (Brugnach et al. 2011, p.79). Most of the time, facilitators encouraged discussion and learning among participants without expressing their own opinions. However at times, when the discussion was on a topic on which they had expertise, or when participants asked them their opinion, they would mention it. For example during the third workshop, while the group discussed benefits of reducing the number of cattle, one facilitator mentioned:

*Jeldu farmers […] are sending their cattle to other woreda during rainy season and they pay 100 birr per cattle for two months of rainy season. If one farmer has 10 cattle he has to pay*
1,000 birr for the two months of rainy season [...] for the keeper and his expenses. [Instead] they can decrease the number of livestock as a solution and use this grass [Desho grass that they are growing] to solve their feed shortage problem.

By invoking concrete savings that farmers can benefit from through the reduction of their cattle, the facilitator provides a grounded argument for cattle reduction. Another way in which facilitators used this strategy was by often giving the floor to scientific experts, such as a representative of Bahar Dar University. We do not suggest here that the use of a rational problem solving strategy should be avoided. Facilitators’ opinion, especially when facilitators are experts on the problem of concern, is as valuable as other participants. However, facilitators must be conscious of their influence on problem framing. Many authors working on facilitation do not agree with this perspective, arguing that participation should be as “neutral” as possible (e.g. Wong, 2005). We argue that facilitators must take care when changing “hats” (De Bono, 1985) to avoid alienating participants.

The dialogical learning and negotiation strategies were also challenged by opposition strategies used by some participants. Opposition is the imposition of “a particular frame through power strategies” (Brugnach et al., 2011, p.80). Example of this strategy can be found in the discourse of some decision makers who adopt a “lecturing” tone and use their hierarchical and social position to push their own problem frames forward. For example during the first workshop, when the extension head of the woreda introduced the decision makers’ plan to farmers, he used a very condescending tone. He started by saying “we cannot claim that we know more than farmers”, before criticizing farmers: “laziness is not acceptable”, “farmers abuse the use of fuel wood, they burn wood until after midnight, they could stop early, go to bed and wake up early to go to the fields” in order to push his own problem frame forward “it is good to suggest land use plans for different types of crops to farmers so that they don’t plant whatever they want”. Finally he ended by a positive sentence to soften his criticisms “but I don’t want to criticize because we’re all from the same family”. Such opposition strategy was especially used by government representatives during their introduction speeches in workshop openings. Facilitators could react to a certain extent by allowing more time to other stakeholders to react. But they were also bound by the Ethiopian protocol according to which a government official has to open the workshops. This opposition strategy used by the most powerful stakeholders mirrors the persuasion strategies commonly used by the Ethiopian government to convey their ideas about NRM. Awareness-raising campaigns and educational activities are implemented through development agents to teach farmers about the “right” approach to NRM. To a lesser extent, powerful participants also used a rational problem solving strategy. During the third workshop, a representative of the
Organization for Rehabilitation and Development of Amhara mentioned “free grazing is decreasing as much as 15% in Wollo and the livestock in the area is increasing in productivity and generating better income for the farmers”. By invoking scientific evidence of the benefits of restricted grazing, he pushes his agenda forward. Opposition strategies were also used by farmers to show their disagreement with the regulations set by the authorities. For example, after the narrative of the farmers’ case study, one farmer, approved by others, mentioned “we agree in principle but overall we are reluctant. Fodder development in farmer backyards and communal lands needs to take place first. It is not realistic to reduce cattle numbers in a short period of time. Fodder development and reducing stock needs to be carefully planned and sequenced”. These oppositions challenged facilitators’ dialogical learning and negotiation strategies.

These elements illustrate the relational leadership view according to which leadership and framing are co-constructed in social processes. In a participatory process, all stakeholders consciously or unconsciously employ framing strategies to influence shared meanings (Dewulf & Bouwen, 2012). In order to manage frame diversity and ultimately foster collective outcomes, facilitators need to be aware of the various frames, to reveal them in the social sphere and bring them into discussion.

8.5.2 Other constraining factors impacting the effectiveness of strategies to manage frame diversity

Several authors have identified “constraining factors” which impacted on the effectiveness of strategies to manage frame diversity in their case studies (e.g. Bartlett, 1932; Carragee & Roefs, 2004; Chong & Druckman, 2007). In the Fogera case, three main factors seem to have influenced the dialogical learning and negotiation strategies used by facilitators. These are: knowledge, champions and the agenda followed by some of the stakeholders, or “frame sponsorship”.

The knowledge that participants have of the problem, but also of other frame objects - such as the constraints of other actors, the possible solutions to stop free grazing or about participatory processes - shape their frames. Such knowledge impacts their understanding of other participants’ frames and ultimately may influence the effectiveness of the facilitators’ strategies to manage frame diversity. In Fogera, participants originating from communities where trainings had been carried out about free grazing by development agents or NGOs had different visions of the problem. Often, they understood the benefits of using cut-and-carry or other alternative systems to free grazing. This was even truer when practical demonstrations had been made, and where they could see the benefits on fellow
Practicing relational leadership through managing frame diversity: example from a participatory process in Ethiopia

Bracket and Ingram (2012, p. 61) cite “ambiguity is often the result of unrecognized contextual, methodological and substantive differences among knowledge systems”. Through knowledge sharing, facilitators can therefore increase the effectiveness of their strategies to manage frame diversity. However, knowledge can also easily be used towards negative ends, for example by elites or other actors’ groups, as has been demonstrated widely in the communication framing literature (e.g. Brewer, Graf, & Willnat, 2003). Bracket and Ingram (2012) recommend considering knowledge as a co-production process by recognizing interdependencies, building good relationships and creating the decision space that supports collaboration. For this to happen, spaces need to be created within which multiple forms of knowledge can be expressed and shared.

A second factor which played a role in the Fogera case is the intervention of champions. As highlighted by Gray (2004), reframing “depends on the ability of at least some of the actors to inquire into the intentions and meanings of other actors”. In Fogera, the role of champions in problem framing and reframing was noticeable. Five decision makers in particular had a bridging role. The majority participated in all three workshops. Their position-most worked both with decision makers and farmers-provided them with a unique understanding of others’ frames and constraints. During the first workshop, when several decision makers challenged farmers’ plan, one champion from Bahar Dar University emphasized that, according to him, and contrary to what other decision makers argued, zero grazing was impossible to achieve in the short term. To support his argument, he talked about his experience with communities and the constraints faced by farmers on the ground. Thanks to their legitimacy and credibility, champions were able to convince other decision makers of the relevance of the farmers’ frames, even when facilitators had failed to do so. It is useful for facilitators to identify and invite a few champions when engaging a participatory process, as they will likely increase the effectiveness of the strategies to manage frame diversity, along with the overall success of the process (Gallagher, 2009).

Finally, the agenda pursued by the various stakeholders can impact their frames. Understanding stakeholders’ agendas requires investigating which organization they work for, what is their role within the organization and what interests they came to defend. This is not necessarily always easy to do. Stakeholders may have multiple agendas, some of which they may be reluctant to express openly. Carragee and Roefs (2004) call this agenda “frame sponsorship”. In the Fogera case for instance, facilitators were influenced both by the project and their organization’s agenda. The participatory process was developed in the frame of two projects: AfroMaison, led by the International Water
Management Institute (IWMI) and the Nile Basin Development Challenge\textsuperscript{28} led by the International Livestock Research Institute (ILRI). Facilitators belonged to one or the other organization. Some worked for IWMI whose mission is “to provide evidence-based solutions to sustainably manage water and land resources for food security, people’s livelihoods and the environment” (IWMI, 2015). Others worked for ILRI whose mission is “ensuring better lives through livestock” (ILRI, 2015). Most of the time, the agenda of these two projects and organisations overlapped. But at times, they were conflicting, which led facilitators to defend different interests. This has been previously described in the literature as “co-engineering negotiation”, where differences in frames at the level of the process facilitators’ create a second level of conflict and a need for negotiation and learning (Daniell et al., 2010b). These types of negotiations are also referred to as a “shadow negotiations” in the business and negotiation literature (Kolb & Williams, 2001; Lewicki, Saunders, & Barry, 2006). At the end of the first workshop, a disagreement emerged among some facilitators regarding framing of the problem. Below is an abstract of the discussion between two facilitators (F1 and F2).

- **F1**: Even though F2 suggested to focus the next workshop on free grazing, the stakeholders said they liked the fact of having integrated strategies.
- **F2**: But in terms of strategy, it’s hard to implement.
- **F1**: AfroMaison project is about producing integrated plans and then assessing how the implementation goes.

F2, working for ILRI, sustained that in the following workshop the plans should be reframed to focus on free grazing in order to increase their implementability. F1, working for IWMI, argued for a broader and more integrated approach between land and water and reminded AfroMaison’s objective. Unconsciously, these arguments followed the facilitators’ respective organizations’ and projects’ missions. Finally, it was decided to reframe the plans on one problem decided by the participants.

Many other factors can play a role in the effectiveness of the strategies used, including past experiences (Bartlett, 1932), political and cultural opportunities and constraints (Benford & Snow, 2000) or stakeholders’ backgrounds, societal positions and values and beliefs (Brugnach & Ingram, 2012). There is a vast potential for further research in that domain.

\textsuperscript{28} The Nile Basin Development Challenge (NBDC) (2010-2013): “Rainwater management for resilient livelihoods” funded by the Challenge Program on Water and Food (CPWF) of the Consortium of International Agricultural Research Centers (CGIAR).
8.6 Conclusion

The research question of this paper was: how can facilitators apply relational leadership in practice through managing frame diversity in order to foster the connectedness needed for collaborative work to advance the participatory process mission? We highlighted the need for facilitators to start by identifying the various frames at play in the participatory process. We suggested this identification to be made in two steps: a formal identification of frames before or during early stages of the participatory process and an informal identification of frames’ evolution throughout the process. Based on Brugnach et al. (2011), we then suggested five strategies which could be used by facilitators to manage frame diversity and foster collaborative outcomes: rational problem solving, persuasion, dialogical learning, negotiation and opposition. We illustrated how frames could be identified and managed through the example of a participatory process in Fogera, Ethiopia. We then discussed the effectiveness of facilitators’ strategies to manage frame diversity in the Fogera case. We found that two elements challenged the effectiveness of facilitators’ strategies: counter-strategies used unintentionally by facilitators or intentionally by most-powerful stakeholders, and other “constraining factors” such as knowledge, champions and frame sponsorship. We argue that these three elements need to be taken into account by participatory process facilitators when selecting a strategy to manage frame diversity. One aspect which seems to be particularly important and which underpins others is the role of power in relational leadership and framing. Opposition strategies used by participants, but also the way in which facilitators can manage, but also contribute to, power relationships would deserve further research.

In addition to this pragmatic objective, the second underlying objective of this paper was more theoretical: fostering the convergence between relational leadership theory and participation literature.

On the one hand, we argue that participation literature and practice would benefit from considering facilitators as relational or social change leaders and participatory processes as social change organizations (as defined by Chetkovich & Kunreuther, 2006). This new lens engages researchers and practitioners to look at participatory processes as social spheres in which leadership is co-constructed through interaction among the stakeholders, where knowledge is negotiated and power is unequal. It emphasizes the importance of looking not only at existing interpersonal relationships, among participants and between participants and facilitators, but also at relational dynamics. It reminds us that these dynamics may occur in any direction - not only top-down – and generate mutual influences.
Relational leadership also adds subtlety to participation’s conception of knowledge and meaning. Leadership and communication literatures suggest that what facilitators must do if they want to support organized action is not necessarily to ensure shared meanings, which can be difficult, but to ensure *equifinal meanings*, that is a shared repertoire which participants recognize, respond to, and use to interact with one another and to coordinate their actions (Donnellon et al., 1986). Finally, relational leadership emphasizes the importance of the context (Osborn, Hunt, & Jauch, 2002), to avoid contemplating participatory processes as arenas independent of their surrounding social sphere. Overall, relational leadership theory engages participation researchers and practitioners to adopt a view of participatory processes anchored in complexity thinking, such that they can better embrace the various elements constituting and influencing successful participation and social change.

On the other hand, relational leadership research may benefit from an understanding of participatory processes and tools (Bradbury & Lichtenstein, 2000). The participation literature engages leadership researchers to “take the action turn” (Ospina, Dodge, Foldy, & Hofmann-Pinilla, 2008). Even though some leadership authors work on leadership practices (e.g. Ospina & Foldy, 2010; Uhl-Bien & Ospina, 2012), most research on leadership is theoretical. As a result, many leaders still struggle to acquire framing and other skills (Fairhurst, 2005). Leadership theory advances our understanding of leadership. Participation can contribute to change the way stakeholders think about leadership and help them gain the necessary skills to actually becoming actors of social change. For example, leadership authors encourage leaders to develop awareness of mental models (e.g. Fairhurst, 2010; Kolkman, Veen, & Geurts, 2007). Framing and participation may provide tools for doing so, for example through case studies and narratives to explore their own repertoire or through role-playing games as perspective-taking exercises, as illustrated in this paper. Finally, social change organisations target power imbalances, marginalization and alienation. Social justice, equity, empowerment and fairness are topics that have been extensively researched in the participation literature in which various procedural practices have been identified to achieve these goals (e.g. Nikkhah & Redzuan, 2009; Renn et al., 1995).

These connections between relational leadership theory and participation literature all constitute potential future research developments at the crossroads of the two fields. These pathways may not be easy, as they may require high levels of reflexivity and “positionality” (Herr & Anderson, 2005) from both researchers and practitioners. However, they will surely contribute to a better managed environment and society.
Conclusion

This final part of the thesis draws together the findings from the preceding research to answer the research questions posed. This chapter:

- Summarizes the key contributions from each chapter, in a table,
- Draws on the contributions from chapters 1-8 to address the research questions,
- Highlights the main additions to knowledge on participatory processes and institutional change that this thesis provides,
- Outlines shortcomings of this thesis and opportunities for future research, and
- Provides a concluding comment.

The key question posed in this thesis was: “How can participatory planning processes for NRM trigger suitable institutional dynamics to sustainably address social and environmental issues of concern in a given context?” More detailed questions were identified to explore this topic. These are shown in Figure v. Research was undertaken to explore these questions and a contribution to knowledge was made through two lenses:

- A methodological lens (part 1): by exploring the methodological challenges in the monitoring and evaluation of environmental participatory planning processes, their contexts and their outcomes and providing guidance on approaches, frameworks and methods.
- A procedural/institutional lens (part 2): by analysing institutional dynamics and their drivers and how these drivers could be used as “levers” to trigger suitable institutional dynamics to sustainably address social and environmental issues of concern in a given context.

**Key contributions from the thesis chapters**

The separate publications in chapters 1–8 provided many insights into the research questions. The key contributions from this research are listed in Table iv.
### Table iv. Key contributions from each chapter

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>KEY CONTRIBUTIONS</th>
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<tbody>
<tr>
<td><strong>Part 1: Methodology – Monitoring &amp; evaluation</strong></td>
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<tr>
<td><strong>Chapter 1. Approach</strong></td>
<td>I suggest a <a href="#">typology</a> to help applied researchers working on complex systems, such as participatory processes or social-ecological systems, to undertake their “research journey”. The typology classifies seven research approaches along six key assumptions. The seven research approaches classified are: case study, grounded theory, participatory research, feminism, action research, intervention research and evaluation research.</td>
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<tr>
<td><strong>Chapter 2. Descriptive framework</strong></td>
<td>I suggest the <a href="#">Comparison of Participatory Processes (COPP)</a> framework. The COPP framework aims first, at facilitating the development of clear and comprehensive descriptions of participatory processes, and second, at analysing the effectiveness of participatory processes and their elements through the systematic comparison of a larger number of diverse cases. The framework is composed of three dimensions: context, process, and outputs outcomes and impacts. For each dimension, a list of variables is provided, with associated selectable options (see Annex 2.1). The framework also requires clarification of three monitoring and evaluation elements.</td>
</tr>
<tr>
<td><strong>Chapter 3. Analytical framework</strong></td>
<td>I suggest the <a href="#">Monitoring and Evaluation of Participatory Planning Processes (MEPPP)</a> framework which application involves six main phases. The MEPPP framework aims at guiding evaluators to set up the monitoring and evaluation of their participatory planning process of interest. Chapter 3 particularly emphasizes phases 2 and 3 which are specifically strategic as they imply discussions and trade-offs and a strong “framing” moment when “boundary judgments” are made about what is “in” and what is “out” of the M&amp;E.</td>
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<td><strong>Chapter 4. Methods</strong></td>
<td>Chapter 4 looks into phase 4 of the MEPPP framework. Four methodological challenges are identified which participatory processes evaluators have to tackle when selecting and implementing methods: 1. Using mixed methods, both qualitative and quantitative, 2. Assessing the participatory process, its outcomes, and its context, 3. Taking into account both the theory and participants’ views, and 4. Being both rigorous (for ex-ante/ex-post comparison) and adaptive (to capture “surprises”). I suggest simple tables and strategies that can be used to address each of these methodological challenges (see section 4.5).</td>
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<tr>
<td><strong>Part 2: Results – Institutional dynamics</strong></td>
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<td><strong>Chapter 5. Institutional bricolage</strong></td>
<td>I suggest that rather than trying to craft blueprint institutions through interventions (e.g. participatory planning processes), such interventions could act as “institutional corridors” to create favourable conditions for “institutional bricolage” to occur. I identified five strategies which can be used by facilitators for participatory planning processes to act as institutional corridors. I identified contextual and procedural drivers which facilitate or hinder the effectiveness of participatory planning processes to act as institutional corridors.</td>
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<tr>
<td><strong>Chapter 6. Institutional dynamics</strong></td>
<td>I identified eight types of institutional dynamics based on the distinction between formal and informal, institutions and organizations, and emergence and change. I used the process-tracing method and causal cluster approach to identify contextual and procedural drivers which triggered these institutional dynamics. I argued that procedural drivers could be used as “levers” by facilitators to foster institutional bricolage. Procedural drivers were therefore grouped into three clusters of levers in function of their nature: participants, facilitators and process.</td>
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Chapter 7. Scale

Implementing participatory planning process at multiple scales can trigger institutional dynamics.

Specifically, **three levers** can be used to up and downscale participatory planning processes: facilitators’ will to involve local communities and national stakeholders, innovative tools such as role-playing games and partnerships with well-established networks and organizations.

This chapter also concludes that **simultaneously engaging the meso and the local scales from the onset** seems more efficient in triggering institutional dynamics than using the meso scale as an entry to the other scales.

**Upscaling processes to the national scale may not be relevant in the initial stages of the process**. Instead, one or two key national players can be involved to support legitimation of the process and to drive change at the national level linked to regional and local NRM insights.

Chapter 8. Problem framing

Managing the diversity of frames within participatory processes can foster collaborative outcomes and ultimately trigger institutional dynamics.

**Two steps** are essential for facilitators to be able to manage frame diversity:
- Identifying frames, and
- Managing frames.

**Five strategies** can be used to manage frame diversity: rational problem solving, persuasion, dialogical learning, negotiation, and opposition.

I also identified **contextual and procedural drivers** which facilitate or hinder the effectiveness of facilitators’ strategies to manage frame diversity.

**Addressing the research questions**

Based on these contributions, I will now step back in order to provide higher-level answers to the four research sub-questions. More “practical” methodological and procedural recommendations for the M&E and the design of participatory planning processes are provided in Annex i. They are destined to practitioners and decision makers seeking to design participatory planning processes for NRM that trigger suitable institutional dynamics to support social and environmental changes in a given context. Figure v summarizes the research sub-questions and the corresponding chapters and recommendations using the conceptual diagram presented in the introduction of this thesis.
Figure v. Research sub-questions and corresponding chapters and recommendations

Sub-question 1 • How can participatory planning processes, their contexts and their outcomes be monitored and evaluated?

Monitoring and evaluating participatory planning processes requires an approach, framework and associated methods. Various research approaches exist which may guide evaluators in such endeavour. They include, among others, case study research, participatory research, action research, intervention research and evaluation research. Some research approaches may have “preferred” methods (such as life history for narrative research for instance). Various approaches may also use
different terminologies and rely on differing philosophical assumptions. This can be confusing for scholars and evaluators seeking to monitor and evaluate participatory processes. They often ask questions such as: is it possible to mobilize several approaches while maintaining the coherence and validity of the results? Are some approaches incompatible with one another? Are there specific methods associated with each of these approaches? Yet, their choice of approach and methods impacts the validity and coherence of the M&E, as well as the way their results will be considered by other stakeholders. It is therefore essential for this choice to be reflexive, coherent and transparent. The typology presented in chapter 1 can help evaluators and scholars seeking to monitor and evaluate participatory processes to:

- Make their *key assumptions* transparent (using Table 1.3),
- Ensure that these assumptions are not *contradictory* (using Table 1.6), and
- See which *research approaches* they can draw from to monitor and evaluate their participatory processes (using Table 1.4).

The concrete implementation of the M&E can follow the *six phases* presented in chapter 3:

1. Description of the case using the COPP framework,
2. Clarification of the M&E viewpoint(s) and definition of the M&E objective(s),
3. Identification of the context, process and outcomes analytical variables based on the M&E objective(s),
4. Development of the M&E methods to inform the descriptive and analytical variables and data collection,
5. Analysis of the data collected in order to inform the M&E objective(s), and
6. Sharing of the M&E results and reflections on improvements to support learning.

As demonstrated in chapter 4, monitoring and evaluating participatory planning processes is not linear. It is rather an iterative dynamic among the six M&E phases to adapt to the complexity, uncertainty and emerging challenges of the process under study. The approach, framework and methods are constantly evolving, requiring evaluators to be open and adaptive.
Sub-question 2 • What is the process through which participatory planning processes facilitate institutional dynamics?

I suggest that rather than trying to craft blueprint institutions through interventions (e.g. participatory planning processes), such interventions could act as “institutional corridors” to create favourable conditions for “institutional bricolage” to occur. To the best of my knowledge, such a practical application of the institutional bricolage approach within the context of development had never been implemented.

I identified five strategies which can be used by facilitators for participatory planning processes to act as institutional corridors:

1. Emphasizing the importance of adequate institutional arrangements for integrated NRM,
2. Mapping out the “landscape” of the institutional corridor by including a state-of-the-art of existing governance arrangements,
3. Setting the “width” of the corridor by suggesting various possible alternative institutional options,
4. Leaving the “door” open as to whether adequate institutional arrangements should be new, those already in existence or a mix of the two, and
5. Strengthening the presence of government representatives in the process.

These five strategies are procedural levers which facilitators can activate to trigger institutional dynamics, as will be highlighted in the next section.

Sub-question 3 • What specific aspects of the social and environmental context (contextual drivers) and of the participatory planning process (procedural drivers) trigger institutional dynamics?

Chapters 5 to 8 all identified contextual and procedural drivers which triggered institutional dynamics in the Rwenzori and Fogera cases. I argued that procedural drivers constitute “levers” which facilitators can activate to trigger institutional dynamics.

In terms of contextual drivers, this thesis highlighted three contextual drivers that particularly influence institutional dynamics: the socio-economic context, existing formal and informal institutions...
(and gaps in these), and the organizational and relational context. Within these drivers, the social embeddedness of the process and its path-dependency to pre-existing authoritative relationships and social inequalities are elements which can limit the effectiveness of participatory planning processes to act as institutional corridors. An illustration of the social embeddedness of the process is the influence of social, ecological and political dynamics. In the Rwenzori for instance, one workshop had to be postponed after the sudden death of one Member of Parliament. Suspicions of poisoning surrounded her death and when the workshop took place a few days after, many discussions and interviews related to issues of corruption, conspiracy and political ineptitude. This anchored participants in their current situation and prevented them from exploring alternative institutional arrangements. Chapter 8 provides another example showing how pre-existing authoritative relationships and social inequalities can influence the process and institutional dynamics. It demonstrates how the most powerful participants used opposition strategies which hindered facilitators’ work. For instance, some decision makers adopted a “lecturing” tone and used their hierarchical and social position to push their own problem frames forward. This limited minorities and most disadvantaged stakeholders from exploring alternative arrangements. I suggest these elements be given particular attention when undertaking the contextual analysis. However, other contextual elements may play roles which can be captured with the aid of adaptive M&E methods. Further research is needed to more systematically identify contextual drivers influencing institutional dynamics and how these can be taken into account by facilitators within participatory processes.

The procedural drivers identified throughout chapters 5 to 8 were grouped into three clusters of procedural levers, linked to the participants, facilitators and process, as illustrated in Figure vi. Details as to how these levers can be activated are provided in the procedural recommendations 2-6 in Annex i. One comment needs to be made regarding the “facilitator” cluster. Calling for facilitators to activate “facilitator” levers requires a high level of reflexivity about their own capacities, skills, levels of awareness and frames. Specific resources and training may be needed to assist them in this task (see e.g. Groot & Maarleveld, 2000).
Sub-question 4 • What are the different types of institutional dynamics triggered by participatory planning processes?

Based on the institutional literature, three distinctions were identified in chapter 6 which are useful for identifying, describing and analysing institutional dynamics: formal and informal; institutions and organizations; and emergence and change. These distinctions form eight types of institutional dynamics, as illustrated in Table v. These distinctions are useful to clarify what is meant by institutional dynamics in specific cases and which dynamics are being observed. These distinctions should, however, be limited to clarity and analytical purposes only, since in reality they are intrinsically interconnected.
Table v. Eight types of institutional dynamics

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<tr>
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<th>Institutional</th>
<th>Organizational</th>
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<td>Formal</td>
<td>Emergence</td>
<td>Emergence</td>
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<td></td>
<td>Change</td>
<td>Change</td>
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<tr>
<td>Informal</td>
<td>Emergence</td>
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Now that the key contributions from this thesis have been identified and the research questions addressed, next section highlights the major additions to knowledge that this thesis makes on participatory processes and institutional change.

Additions to knowledge

M&E: bridging the theory-practice gap through combined descriptive and analytical frameworks

The main methodological contribution of this thesis resides in the combined descriptive and analytical frameworks suggested for the monitoring and evaluation of participatory processes. In practice, M&E frameworks are often provided by donors in the form of a ready-to-use grid of criteria that need to be filled in by practitioners on the ground (e.g. Logical Framework developed for the United States Agency for International Development). These frameworks are useful to control the relevance, efficacy, efficiency, and effectiveness of participatory processes but do not aid practitioners in making decisions about the process. In addition, these grids are often fixed and not adapted to the specificities of the context, processes and M&E objectives of the cases under consideration. In parallel, researchers have developed M&E frameworks destined to be adapted to specific cases (e.g. Dyer et al., 2014). However, these frameworks generally require more resources and involvement of evaluators than just following a guidebook “off-the-shelf”. Therefore, efforts made in the literature are often confronted with reluctance from practitioners who are repelled by the magnitude of the task. In order to bridge this theory-practice gap, I suggest to combine both an easy-to-use descriptive framework and an adaptive analytical framework to monitor and evaluate participatory processes. Both are based on existing frameworks suggested in practice or in the literature but, to the best of my knowledge, no existing approaches ever suggested to combine the two in order to bridge the M&E theory-practice gap.
Both descriptive and analytical frameworks suggested in this thesis are complementary and destined for different uses, as illustrated in Table vi.

Table vi. Complementarity of the COPP and MEPPP frameworks

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| **USE**              | • Main use = descriptive: description and comparative analysis of participatory processes. The purpose of this cross-comparison is to analyse the effectiveness of participatory processes and their elements.  
• Can also be used to point out critical elements that should be considered in the design of participatory processes. | • Main use = analytical: monitoring and evaluation of specific participatory planning processes. |
| **ADVANTAGES**       | • Can be used with any participatory process (not necessarily planning).  
• Easy to use (questionnaire-type, see Annex 1 in chapter 2). | • Adapted to the plurality of objectives, contexts, viewpoints and able to capture unintended outcomes. |
| **LIMITATION**       | • Not intended as a device to conduct a detailed analysis of specific processes (for this the MEPPP framework can be used). | • Requires more resources and involvement of the evaluators than just following an off-the-shelf guidebook. |

The COPP or descriptive framework presented in chapter 2 is an easy-to-use questionnaire including questions about the participatory process, its context and outcomes (see Annex 2.1). It can easily be used by evaluators on the ground to monitor and evaluate any participatory process. However, as a systematic framework, it is not adapted to the specificity of each case. Its main use is therefore the comparison across cases. In parallel, the MEPPP framework introduced in chapter 3 allows evaluators to develop a M&E process adapted to the specific context, participatory process and M&E objectives of their cases of interest, through the application of six phases. The MEPPP framework is more adaptive, but it requires more resources and involvement of the evaluators than just following an off-the-shelf guidebook. Based on their resources, needs and interest, evaluators may choose to use one or the other framework, or ultimately to combine both for a rigorous and comprehensive M&E of their participatory process.

Breadth of synthesis: drawing from a wide range of social and management sciences

The second major methodological addition of this thesis to knowledge is its breadth of synthesis. As highlighted by Gerald Midgley in his review of my first chapter, “hardly any papers survey such a wide range of social and management sciences”. As a scholar trained in management and engaged in a PhD mostly mobilizing social sciences, I was initially confused by the overlapping terminology (e.g.
monitoring and evaluation vs. research, data collection vs. methods) and by paradigmatic debates in both corpora (e.g. neopositivism/interpretivism). I felt the need, in order to be more confident in my own research approach, to better understand existing research approaches I could draw from and to what extent these were compatible. Through reading of the literature and discussion with peers, I realized that many early career researchers, multi-disciplinary scholars new to social or management sciences and doctoral students in particular, encountered similar difficulties. Limited guidance exists to help them undertake what McGowan et al. (2014) call their “research journey” (Cundill et al., 2005).

This thesis has given significant effort to cutting through a lot of jargon and complex philosophical arguments to get to the crux of the debate and present it in an original way that early career researchers will understand. For example, in chapter 1, I provide a terminology defining which terms I am using for specific purposes (e.g. theoretical perspective, research approach, methods). The terminology also includes the commonly used alternative terms for these purposes in an attempt to enhance transparency and communication across corpora and disciplines (see Table iv and Figure v in chapter 1). The typology provided in the same chapter aims at guiding researchers in undertaking their research journey with more confidence. In using the typology, they can navigate more easily the range of social and management sciences. This can help them to gain confidence, reflexivity and transparency in their own research approach, but also to comprehend the commensurability of the methods chosen to monitor and evaluate participatory processes.

Critical institutionalism: a practical application of the institutional bricolage approach

In regards to institutional dynamics, this thesis provides an original contribution to the emerging literature on “critical institutionalism” by exploring a practical application of the institutional bricolage approach. While the concept of institutional bricolage had been investigated by a number of scholars (e.g. de Koning, 2014; Merrey & Cook, 2012; Sandström, 2008; Sehring, 2009), a practical application of this approach within the context of development was yet to be implemented. Most existing studies use the concept of institutional bricolage to analyse institutional changes taking place in various systems such as post-Soviet regimes (e.g. Sehring, 2009) or water resources management institutions (e.g. Merrey & Cook, 2012). However, to our knowledge, none of these studies investigate how institutional bricolage can be actively and voluntarily triggered by stakeholders on the ground. Based on Cleaver’s (2012, p.211) acknowledgement that “Transformation and change is always possible through bricolage, but facilitating it through designed interventions requires a flexible and constantly adaptive approach that crosses scales and is able to address the exercise of both visible and invisible
power”, I demonstrate the applicability of the concept of institutional bricolage in guiding development interventions. I also add to the original theory on institutional bricolage by providing practical guidance for practitioners and policy-makers on how to give effect to the concept on the ground through the five strategies presented earlier in this chapter.

**The use of process-tracing to identify drivers of institutional dynamics**

Finally, this thesis contributes to the institutional literature by using the process-tracing method (George & Bennett, 2005) to identify contextual and procedural drivers in institutional emergence and change. To my knowledge, no previous concrete application of the process-tracing method had been made in the literature towards those ends. The method is largely described in the literature in conceptual terms but, to my knowledge, it had never been used for detailed analytical purposes like I do with the figures in section 6.5 in this thesis. The systematic use of the process-tracing method to compare larger samples of dynamics and cases could help practitioners to identify robust clusters of drivers of institutional dynamics across diverse cases and contexts. Procedural drivers constitute “levers” which facilitators can activate to trigger institutional dynamics. Such systematic comparison would also enormously expand our understanding of which drivers or clusters of drivers are more likely to lead to which type of institutional dynamics, whether formal or informal, organizational or institutional and emergence or change, depending on the context. This opens up many more options and possibilities to those seeking to foster social and institutional change through participatory processes.
Shortcomings of this thesis and agenda for future research

Comparing additional research approaches through the typology

Even though this thesis draws from a wide range of social and management sciences, the body of work on methodology and philosophy of science is so wide that additional references and insights could always be added (e.g. from Dewitt, 2010; Hollis, 2003; Papineau, 2003; on the history and philosophy of science). Moreover, research approaches which are relevant to complex systems research are constantly evolving and are almost as numerous as the number of authors in the field. The comparison of the seven research approaches in Table 1.4 is by no means exhaustive. Numerous additional research approaches could be compared using my typology. These include, for example, operational research, emancipatory research and system dynamics. Table 1.3 provides sufficient details for researchers seeking to use the typology to be able to apply it to any research approach of interest.

M&E: further efforts to bridge the theory-practice gap

Although I, and others, have worked hard to bridge the M&E theory-practice gap, much remains to be done. For instance, some phases of the MEPPP framework could still be made more “user-friendly”. This could be done, for instance, by providing further guidelines on how to select the variables or how to transform these variables into questions and items for the M&E methods (phases 3 and 4 in chapter 3).

In parallel, practice could also feed theory. I recommend further testing of the COPP framework by the community of researchers and facilitators. This would allow the framework’s theoretical structure to be refined and to generate and validate or invalidate further hypotheses. Ultimately, the comparative analysis of COPP-based descriptions would allow the participation community to gain a greater understanding of participatory process elements and their effectiveness. In turn, this would advance knowledge on participatory processes and guide facilitators in designing future participatory processes. Similarly, further use of the MEPPP framework would promote exchanges of experiences and learning among the community, notably on how to speed up its implementation.
Various communities of researchers and practitioners engaged in participatory processes already exist in various countries and internationally (e.g. IAP2, 2015). The constitution of a shared library of cases using common M&E frameworks such as the COPP and MEPPP would promote learning and contribute to further bridge the theory-practice gap in the field.

**Testing my recommendations through “real-world” experiments**

Comparing a larger number of diverse environmental participatory planning processes would also allow further insights to be gained on the contextual and procedural drivers triggering institutional dynamics. The process tracing method (George & Bennett, 2005), combined with a causal cluster approach (Young, 2008), illustrated in chapter 6, could be used for that purpose. The comparative analysis of the Rwenzori and Fogera cases revealed a number of contextual and procedural drivers triggering institutional dynamics. I argued that procedural drivers could be used as levers and triggered in order to foster suitable institutional dynamics to support the social and environmental changes that the participatory planning process aims to foster. I identified three clusters of levers related to participants, facilitators and the process itself (see Figure vi above). In this thesis, I focus on process-related levers which are the least studied in the literature. I formulated these in terms of procedural recommendations (see Annex i). Ultimately, recommendations on intervention design provided in this thesis and drawn from further research could be tested in “real-world” experiments (i.e. partially controlled participatory process designs implemented and assessed in a variety of contexts, see Abelson et al., 2007; Burton, 2009). Effectiveness of these new intervention designs could be monitored, evaluated and systematically compared in order to analyse whether they actually trigger institutional dynamics and contribute to the sustainability of the social-ecological system of interest.

**Procedural levers: further research is needed on conditions for using participatory tools**

Focusing on process-related levers allowed me to identify four process-related levers in addition to the five “institutional corridor” strategies (see Figure vi above): engaging multiple scales, managing frame diversity, making and using an in-depth context analysis and using participatory tools to reveal the complexity of the social-environmental system (see procedural recommendation 4). Two have been explored in depth in chapters 7 and 8 of this thesis: engaging multiple scales and managing
frame diversity. Further research would be needed to investigate the two remaining procedural levers identified in this thesis: context and participatory tools.

Regarding participatory tools, my analysis revealed that certain tools, such as role-playing games for instance, might be more effective than others in reaching the process objectives or in managing frames depending on the degree of system complexity (see chapter 2). Further research is needed to determine which tools are more effective towards which aim(s) and in which conditions.

**Contextual drivers: further research is needed on conditions for adopting the institutional bricolage approach**

Concerning the context, guidance is needed as to how an in-depth contextual analysis can be carried out and the participatory planning process design adapted based on the results (see e.g. Williams, 2004). In this thesis, I recommended the adoption of an institutional bricolage approach and suggested five strategies for the process to act as an institutional corridor. I suggested that rather than identifying adequate institutional arrangements based on their own analysis of the context, participatory process facilitators could create the conditions for participants to craft their own institutional arrangements by piecing together existing and new ones. To a certain extent, the contextual analysis is therefore made unconsciously by participants themselves. However, facilitators need to make sure that contextual elements and existing institutional arrangements which participants draw upon are monitored and evaluated. A few contextual elements have already been identified in this thesis such as the socio-economic context, existing formal and informal institutions, and the organizational and relational context. This illustrates the intricate relationship between contextual and procedural drivers. A more systematic analysis is required. This would allow us to understand in what institutional context adopting an institutional bricolage approach is most highly recommended.

Notably, in the two cases analysed in this thesis, some formal or informal institutional arrangements existed which were supportive of desired changes. For example in Uganda, institutional analysis revealed that adequate legal and governance arrangements theoretically exist including environmental policies, legislations and organizations from the local to the national levels. Gaps reside in implementation of those. I infer the hypothesis that institutional bricolage might only be recommendable when some institutional arrangements already exist which are supportive of the social and environmental changes that the participatory planning process aims to foster. On the other hand, when existing institutional arrangements are highly resilient and unsupportive of desired
changes, for example when institutions are statist and coercive (Hills, 2000) or when they fall prey to rigidification (Olson Jr., 1982), the institutional bricolage approach, which promotes incremental changes, might not be sufficient to trigger institutional dynamics. In this case, a more transformative change might be needed and approaches looking at the notions of regime shifts, thresholds and windows of opportunity coming from sustainability transition research literature (e.g. Markard, Raven, & Truffer, 2012) and institutional resilience (e.g. Herrfahrdt-Pähle & Pahl-Wostl, 2012; Young, 2010) might be more relevant. Cases of institutional failure would be an interesting ground for further research to understand the drivers of such failure and how purposeful institutional decline could foster sustainability. Existing literature pays only scarce attention to these processes (Acheson, 2006) and further research in these directions is needed.

The importance of managing power in the facilitation and the M&E of participatory processes

Finally, the organizational and relational context, and notably power relationships, is a recurring aspect in the dynamics analysed in this thesis. For example, power issues were prevalent in the Fogera process with most-powerful stakeholders using opposition strategies to impose their frames on other participants. Further research would be needed on issues of power. Indeed, it is now increasingly recognized that issues of power need to be taken into account when facilitating participatory processes (Cullen et al., 2014). We argue that power also needs to be taken into account when monitoring and evaluating participatory processes, their contexts and their outcomes. But power relationships are typically multi layered and hidden (Arts & Tatenhove, 2004) and therefore difficult to analyse for the researcher. Research could therefore investigate how to take into account exercise of both visible and invisible power when monitoring and evaluating participatory processes and to what extent power influences institutional dynamics. Some authors have started investigating these issues (Matthews & Sydneysmith, 2010). We suggest that role-playing games could be used not only as a participatory tool but also as a M&E method for participants to reveal, discuss and negotiate visible and invisible exercises of power so that they can be better taken into account by facilitators and evaluators throughout the participatory process.
Concluding comment

Collectively, the contributions of this thesis are a major step towards reaching sustainability through integrated and adaptive management of natural resources. The combined descriptive and analytical M&E frameworks, drawing from a wide range of social and management sciences, can increase our understanding of participatory planning processes, their contexts and their outcomes. Information collected through these frameworks and analysed through the process-tracing method, advances global understanding of how, concretely, institutional bricolage can be triggered. Such an approach is in line with recent advances in the development community, which started to realize the value of promoting, rather than imposing, change.

The difficult translation of concepts such as institutional bricolage or process tracing in practice have so far hindered their wide adoption by practitioners. The anchoring of these concepts in complexity thinking makes their adoption more difficult than simply following “good participation” or “good governance” guidelines. They require adaptive capacities and skills in the design, implementation and M&E of participatory planning processes.

However, I have contributed to demonstrating that the benefits justify the cost. Both in the Rwenzori and Fogera cases, actual actions started being implemented, relationships were created or strengthened and reflections regarding suitable institutional NRM arrangements continued after the end of AfroMaison project. I also demonstrated that wider adoption of the suggested frameworks, and of the institutional bricolage and process tracing concepts, would further enhance our knowledge of how these could be implemented on the ground. I made a first step in this direction by listing various recommendations which could be adopted by facilitators, whether researchers, practitioners or decision makers, in the design of their future interventions (see Annex i).

Studies that further explore power relationship conditions for using participatory tools and adopting the institutional bricolage approach are urgently needed to assess the effectiveness of the suggested recommendations. Further research bridging the theory-practice gap in the M&E of participatory processes is also essential considering the increasing pace of adoption of participatory approaches by the development community in recent decades.

Although there are still many areas to explore, my thesis has demonstrated that well-thought out monitoring and evaluation processes can shed light on the drivers of institutional dynamics within
participatory planning processes. Collectively expanding on this research in the future will continue to support natural resource management to achieve successful social and environmental outcomes in African countries with decentralized governance systems, and elsewhere around the world.
Annex i • Recommendations for intervention designs

This section aims at providing recommendations for practitioners and decision makers seeking to design participatory planning processes for NRM to trigger suitable institutional dynamics to support social and environmental changes in a given context. These recommendations are stand-alone. The thesis case studies illustrate how recommendations may be implemented.

Two sets of recommendations are presented, drawn from the two sections of this thesis: methodological recommendations and procedural recommendations.

Methodological recommendations

I have argued throughout this thesis that rigorous monitoring and evaluation of participatory planning processes is essential if facilitators are to thoughtfully design and implement participatory planning processes for NRM and trigger desired changes. This for two reasons: first, it is only through a rigorous monitoring and evaluation of the process, its context and outcomes that facilitators can “know what they do” and “know what they get”. Second, when the M&E is thoughtfully designed and when its results are fed back to participants, it can contribute substantially to the change process towards the adaptivity and sustainability of the system of interest (Bellamy et al., 2001).

My methodological recommendations for the monitoring and evaluation of participatory planning processes for NRM, their contexts and their outcomes are as follows:

METHODOLOGICAL RECOMMENDATION 1. ASSUMPTIONS AND RESEARCH APPROACH
It is essential for researchers working on participatory processes to make their key underlying assumptions transparent (using Table 1.3) and to ensure that these assumptions are not contradictory (using Table 1.6). This will increase research coherence, reflexivity and transparency.

The typology (using Table 1.4) can provide insights for researchers, practitioners and decision makers as to which research approaches bear similar or contradictory philosophical assumptions to their own, thus hopefully helping them to undertake more informed reading and use of the literature. These research approaches can guide them in the selection and combination of methods. Clarifying their underlying assumptions is also beneficiary for communicating the results of their research to other scholars and practitioners.

METHODOLOGICAL RECOMMENDATION 2. PARTICIPATORY PLANNING PROCESS DESIGN
The COPP framework can help participatory planning process designers to make sure that they have considered all important elements in the design of their process (see Annex 2.1)
METHODOLOGICAL RECOMMENDATION 3. M&E DESIGN

Evaluators seeking to monitor and evaluate participatory planning processes can follow the six phases of the MEPPP framework (see Figure vii):

1/ Description of the case using the COPP framework: this phase allows evaluators to describe the context in which the process takes place, the process itself (e.g. who are the facilitators, how participants are selected, the duration) and its main outputs, outcomes and impacts. It is useful for evaluators to keep track of “what is being done” and “what results from it” and inform external stakeholders about it (e.g. donors, government representatives) (see Annex 2.1),

2/ Clarification of the M&E viewpoints and definition of the M&E objective(s) (see methodological recommendation 4),

3/ Identification of the context, process and outcomes analytical variables based on the M&E objective(s) (see methodological recommendation 5),

4/ Development of the M&E methods to inform the descriptive and analytical variables and data collection (see methodological recommendation 6),

5/ Analysis of the data collected in order to inform the M&E objective(s) (see methodological recommendation 7),

6/ Sharing of the M&E results and reflections on improvements to support learning (see methodological recommendation 8).

Phases 2, 3 (chapter 3) and 4 (chapter 4) are particularly strategic. They were addressed in depth in chapters 3 and 4.

Figure vii. Framework for monitoring and evaluating participatory planning processes: the descriptive part is the COPP framework and the analytical one the MEPPP framework (drawn from chapter 3)
METHODOLOGICAL RECOMMENDATION 4. M&E VIEWPOINTS AND OBJECTIVE(S)

When monitoring and evaluating a participatory process, the composition of the M&E team can influence the results of the M&E. Evaluators can be facilitators in the participatory process, but they can also be external evaluators (e.g., donor representatives, private consultants or participants in the process). Evaluators’ pre-existing relationship with participants, for instance, may influence the responses they obtain from interviews. It is therefore essential to clarify from the onset: who are the evaluators composing the M&E team? What is their relationship with the facilitators and the participants? Why have they taken part in the process?

Second, discussions are needed to define what are evaluators’ objectives, viewpoints, assumptions, priorities, and constraints regarding the M&E. Evaluators can have different visions of the process and of what should be evaluated, why and how. These aspects need to be discussed and trade-offs agreed upon as not all M&E objectives may be achievable depending on the resources available. Once agreements are made among evaluators, M&E objectives need to be shared with participants at the beginning of the participatory process.

Third, words and concepts included in the M&E objectives need to be clearly defined (e.g., in this thesis “institutional dynamics”).

METHODOLOGICAL RECOMMENDATION 5. IDENTIFICATION OF THE VARIABLES TO BE MONITORED

The list of variables to be monitored is the answer to the question: what data need to be collected through the M&E? Identification of variables to be monitored and evaluated needs to be discussed among evaluators based on the M&E objectives. Three questions may guide this identification:

1/ Which contextual elements may play a role in the question which the M&E aims to investigate? For example, in this thesis, the M&E question was to evaluate the institutional and organizational dynamics taking place among and beyond the group of participants. Therefore, the related contextual question was: what are the contextual aspects specifically impacting formal and informal institutional and organizational dynamics in the Rwenzori region? Variables identified in response to this question included “environmental changes”, “relational context” or “socio-economic changes”.

2/ Which aspects of the process may play a role in the question which the M&E aims to investigate? For example, in this thesis, this second question would translate into: which aspects of the process are the most significant in terms of producing institutional changes and why? Or alternatively, which aspects could impede institutional change? Variables identified in response to this question included “participants’ representativeness”, “transparency of information” or “fairness in expression”.

3/ What are the outputs/outcomes we want to monitor and evaluate and how can they be characterized in the area of focus? For example, in this thesis, this question would translate into: what are the various forms of formal and informal institutions and organizations existing in the Rwenzori region and how could change in those be characterized? Resulting variables identified were “relations among stakeholders”, “frequency of interactions” or “knowledge about the social-environmental system”.

Identification of variables can be based on facilitators or evaluators’ experience and knowledge of the area, on literature review, on interviews with local stakeholders or on other participatory exercises such as problem tree, rich picturing, conceptual mapping, matrix ranking or focus group discussions (Oels, 2006). The choice of methods for variable identification depends on various factors such as the level of detail required, the resources available for the M&E and to what extent the M&E is participatory.

While undertaking this selection, evaluators should keep in mind the amount of resources allocated to the M&E. A limited number of evaluators, time or budget may limit the amount of data to be collected.

This initial list of variables can be monitored and evaluated before, during and after the participatory process using various M&E methods. This allows for a “static” ex-post comparison revealing the changes of the system in the given period.
Annex i • Recommendations for intervention designs

METHODOLOGICAL RECOMMENDATION 6. DEVELOPMENT OF M&E METHODS

M&E methods are the techniques or procedures used to obtain and collate raw data on the participatory process. They include, but are not limited to, questionnaires, interviews, participant observation, video recording and surveys.

Variables identified in phase three are formulated into questions or items, as illustrated in section 4.4.4.

The choice and development of M&E methods to inform analytical variables can face four challenges. I suggest simple tables and strategies that can be used to address each of these methodological challenges:

**Challenge 1.** Using mixed methods, both qualitative and quantitative: I suggest the use of a table to check the complementarity and coherence among the qualitative and quantitative M&E methods used (e.g. Table 4.3).

**Challenge 2.** Assessing the participatory process, its outcomes, and its context: I suggest the adoption of a causal cluster approach (Young, 2008) and the process-tracing method (George & Bennett, 2005) in order to cater for the complexity of the system under consideration and to identify the causal relationships among the context, process and outcome variables.

**Challenge 3.** Taking into account both the theory and participants’ views: I suggest the use of a table to clarify and make transparent the roles and responsibilities of the various stakeholders in the six phases of the M&E process (e.g. Table 4.4).

**Challenge 4.** Being both rigorous and adaptive: I suggest the development of an initial list of variables to be evaluated before, during and after the participatory process to allow for a “static” ex-post comparison, while keeping some of the M&E methods adaptive to required changes “on the way” and open to “surprises”, that is to variables which may emerge from the ongoing data analysis. In particular, three strategies can be used to ensure the adaptivity of the M&E methods used: an iterative interaction between data collection and data analysis to uncover “surprises”, “thinking theoretically” (Morse et al., 2002) and reformulation “on the way” of the misunderstood or repetitive items (see chapter 4).

METHODOLOGICAL RECOMMENDATION 7. DATA ANALYSIS

Data collected through the M&E methods is to be analysed. I recommend data transcription to be made as early as possible after collection. This is beneficial for two reasons. First, notes taken by evaluators are more recent in their memory. Second, surprises and unexpected results can be captured and discussed with process participants while the participatory process is ongoing.

I also recommend data to be coded both inductively and deductively (Fereday & Muir-Cochrane, 2006). In the Rwenzori and Fogera cases, this was done by first qualitatively analysing the transcripts to identify the presence of the variables, or codes, listed in the preliminary framework. All the data which did not correspond to any of these variables was assigned a new code, corresponding to “surprises” or variables which emerged during the analysis and had not been envisioned in the preliminary M&E framework. Five emerging process variables or “surprises” were identified in such manner: the scale of the process, the use of role-playing games, and the strategic role played by the problem-framing phase, champions and the project team. These new variables were then added to the interview list of questions which were to be asked after the following workshop (see section 4.4.5 for further detail).

Finally, I recommend the adoption of a complex systems perspective when analysing the data. Concretely, this means being extremely careful in establishing causal links between contextual and procedural variables on the one hand and outcome variables on the other. Following Young (2008), I recommend that rather than trying to assign weight to individual variables as determinants of collective outcomes (causal chain approach), evaluators and researchers try to understand the impacts of a number of interacting variables (causal clusters approach). In the Rwenzori for instance, I looked at the concurrent influence of multiple context and process causes triggering or hindering institutional and organizational change. The process-tracing method (George & Bennett, 2005) is a useful method to that end (see chapter 6).
Annex i • Recommendations for intervention designs

**METHODOLOGICAL RECOMMENDATION 8. SHARING M&E RESULTS**

Sharing of the M&E results determines the usefulness of the M&E. Three questions can guide evaluators in communicating their results:

1/ **Who are the M&E audiences?**
In the Rwenzori for instance, audiences were process participants and broader stakeholders in the Rwenzori region including farmers, policy-makers, representatives of NGOs and private sector.

2/ **What are the most relevant communication means to share the M&E results with these M&E audiences?**
Results of the M&E in the Rwenzori were presented through posters to farming communities and presentations during workshops to meso-scale participants. The latter were also provided with reports summarizing the main outputs and outcomes of the process. Policy-makers received a policy-brief. Scientific papers, conference presentations and project reports targeted the scientific community.

3/ **To what extent do each of the communication means fulfil the various M&E objectives?**
A simple table can be used to ensure that the M&E objectives are fulfilled based on the communication means selected (see section 4.4.6).

I suggest that M&E results be not only shared but also discussed with participants to improve the process and M&E design and support learning. It must be reminded at this stage that these six phases do not necessarily occur in a linear way. Monitoring and evaluating participatory planning processes is rather an iterative dynamic among the six M&E phases to adapt to the complexity, uncertainty and emerging challenges of the process under study.

**Procedural recommendations**

The second set of recommendations is addressed to facilitators involved in participatory planning process design and implementation. This thesis allowed us to identify procedural levers which could be triggered in order to foster suitable institutional dynamics to support the social and environmental changes that the participatory planning process aims to foster.

My procedural recommendations for the design and implementation of participatory planning processes for NRM that seek to foster institutional dynamics are as follows:

**PROCEDURAL RECOMMENDATION 1. INSTITUTIONAL APPROACH**

For facilitators seeking to trigger institutional changes through interventions, it can be tempting to look for universally applicable “design principles” providing a basis for “crafting” or even “engineering” institutions (Merrey & Cook, 2012). I suggest that rather than trying to craft blueprint institutions through interventions (e.g. participatory planning processes), such interventions could act as “institutional corridors” to create favourable conditions for “institutional bricolage” to occur. **Five strategies** can be used for participatory planning processes to act as institutional corridors (see conclusion and chapter 6 for an example).
PROCEDURAL RECOMMENDATION 2. PARTICIPANTS

Chapters 5 and 6 showed that the selection and involvement of participants could be used as a lever to trigger institutional dynamics. My recommendations regarding participants are:

1/ Including participants who are representative of the various stakeholders and interests. Specifically, involving governmental stakeholders in the process is essential.

2/ Including all participants as early as possible. The population of participants may evolve throughout the process, for example to include stakeholders whose presence other participants deem essential. However, early involvement is usually beneficial in fostering outputs ownership and improving outcomes such as learning or trust.

3/ Trying to keep a minimal retention rate throughout the process such that trust can be created throughout the various events. The retention rate is defined as the number of participants attending subsequent workshops. A minimal retention rate also promotes the sharing of individual and collective learning and experiences which is one of the procedural elements facilitating institutional bricolage.

4/ Ensuring fairness in expression such that all participants, especially the most vulnerable and disadvantaged ones, have the opportunity to express their opinion. This can be done through round tables, World Cafés (Brown, 2005) or other participatory tools ensuring that all participants can express their opinion and are listened to by other participants (see Renn et al., 1995).

5/ Pay specific attention to champions who are agents of change and specifically towards their legitimacy and credibility from participants’ points of view and within their own organizations. Champions in the participatory process are generally participants “whose behaviours significantly extend their formal roles” (Gallagher, 2009, p.906). They are usually active participants in the process and attend most workshops. They bring about widespread support for innovative actions, participatory tools and the process (Andersson & Bateman, 2000). They contribute to involve key actors, sometimes by risking their position and reputation to ensure the process success (Howell, Shea, & Higgins, 2005; Schon, 1963). As such, they often play the role of bricoleurs or institutional brokers of connection and can be key to trigger institutional dynamics. For example in the Rwenzori, a small group of decision makers were key in organizing a “high-level policy meeting” to increase ownership and commitment of regional decision makers towards the plan implementation. Champions also often play a role in framing the participatory planning process focal problem as they often have the ability to inquire into the intentions and meanings of other stakeholders and therefore foster understanding and collaboration (see chapter 8 for further details).

In addition, most, if not all, of the principles listed by the participation literature for “effective” participation are relevant in that respect such as: representativeness, transparency, accountability and accessibility.

PROCEDURAL RECOMMENDATION 3. FACILITATORS

My analysis revealed the influence played by facilitators on institutional dynamics, which is often underestimated in institutional analysis and studies of participatory processes. Particular elements which played a role in triggering institutional dynamics were:

1/ The legitimacy and credibility of the facilitators from participants’ points of view and within their own organization,

2/ Their capacity to mobilize resources such as funding or people,

3/ Their previous involvement with the participants,

4/ Their knowledge of social networks and power relationships, and

5/ Their ideas and preconceptions about what institutional changes they would like to see in the area.

I suggest that facilitators should try to take full advantage of these elements when possible. This can be done, for example, by including in the facilitating team stakeholders who have previously been involved with process participants, if other facilitators have not. Facilitators can also write down, individually and then collectively, their ideas and preconceptions about what institutional changes they would like to see in the area. This allows for greater transparency of these ideas and preconceptions and increases facilitators’ consciousness of their influence on the process. These exercises require, however, a high level of reflexivity on one’s own capacities, skills, levels of awareness and frames. Specific resources and training can provide guidance in this task (see e.g. Groot and Maarleveld, 2000).
PROCEDURAL RECOMMENDATION 4. PROCESS DESIGN & IMPLEMENTATION

In addition to participants and facilitators aspects, my analysis revealed concrete ideas that facilitators can experiment with in intervention design in order to facilitate institutional bricolage. These are:

1/ Engaging multiple scales,
2/ Managing frame diversity,
3/ Making and using an in-depth analysis of the historical, social and cultural context of the participatory planning process,
4/ Using participatory tools that reveal the complexity of the social-environmental system, the dynamic interactions among the stakeholders and the diverse and complex influences shaping human behaviour and choices, and
5/ Using the five strategies for participatory planning processes to act as institutional corridors.

The first two elements were explored further in this thesis and led respectively to procedural recommendations 5 and 6. Regarding the five “institutional corridor” strategies, see procedural recommendation 1, conclusion and chapter 6.

Regarding the contextual analysis, this thesis highlighted three contextual drivers that particularly influence institutional dynamics: the socio-economic context, existing formal and informal institutions (and gap in those), and the organizational and relational context. Within these, the social embeddedness of the process and its path-dependency to pre-existing authoritative relationships and social inequalities are elements which can limit the effectiveness of participatory planning processes to act as institutional corridors (see conclusion for examples). I suggest these elements be given particular attention when undertaking the contextual analysis. However, other contextual elements may play role, which can be captured thanks to adaptive M&E methods (see methodological recommendation 6).

Regarding participatory tools, I suggest that tools be used which reveal the complexity of the social-environmental system under consideration. Role-playing games, which were used in the process presented in this thesis, seem to be appropriate. However, other tools may be used such as computerized models (hydrological models, integrated agent-based modelling), visioning or scenario-building. The comparison of participatory processes using the COPP framework revealed that certain tools might be more effective than others depending on the degree of system complexity. Some tools might also be more effective than others in order to confront, discuss and negotiate frames. Further research is needed to determine which tools are more effective towards which aim and in which conditions.

PROCEDURAL RECOMMENDATION 5. ENGAGING MULTIPLE SCALES

Chapters 5 and 6 of this thesis both came to the conclusion that engaging multiple scales in the participatory process was a key driver in fostering institutional dynamics. This aspect was therefore explored further in chapter 7 in order to identify how this could be done. My recommendations drawn from this analysis are:

1/ When possible, to simultaneously engage the meso and the local scales from the onset rather than using the meso scale as an entry to the other scales.

2/ That upscaling processes to the national scale may not be relevant in the initial stages of the process. Instead, one or two key national players can be involved to support legitimation of the process and to drive change at the national level linked to regional and local NRM insights.

3/ That certain levers can be used when willing to upscale or downscale a participatory process. These are: the will of facilitators to engage one or several other scales, a partnership with a well-established network and the use of innovative tools in order to generate interest in the process from potential participants at other scales.
PROCEDURAL RECOMMENDATION 6, MANAGING FRAMES

Chapter 6 identified that managing frame-diversity was a key lever in fostering institutional dynamics. Frames refer to the interpretations that actors give to a situation, affecting the way in which they respond to it (Gray, 2003). For example, a problem of deforestation can be framed as an “insufficient implementation of regulations” by one actor and as a “lack of alternative income generating activities” by another. Within participatory processes, diversity of frames may cause ambiguity in terms of what the problem is or how it should be treated. When this ambiguity is not taken into account, views, values and interests of elites and most powerful participants tend to prevail over the ones of minorities and most disadvantaged stakeholders. It is therefore essential for facilitators to know how to support participatory processes in a way that is inclusive of the diversity of frames and commensurate with common collective goals.

In order to manage frame diversity, facilitators of participatory processes for NRM need to:

1/ **Identify the different frames that participants in the process might hold.** In other terms, facilitators can map the frames in order to identify potentially conflicting ones. The methodology for frame identification suggested in section 8.2 can be useful for that matter.

2/ **Choose the appropriate strategy to manage these potentially conflicting frames** based on the context and the participatory process under consideration. The five strategies to manage frame diversity provided by Brugnach et al. (2011) can be used (see section 8.3).

3/ **Pay attention to factors potentially impacting the effectiveness of the chosen strategies.** I identified three factors: knowledge, champions and frame sponsorship, but others may play a role.
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